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ADVANCED MANAGEMENT

Quarterly Journal

The Society for the Advancement of Management

The Genius of Frederick W. Taylor

The Dilemma of Management

Strategies for Fixed Attitudes

War-time Lessons in Wage Administration

Management Tackles Post-war Distribution

January-March, 1945 Vol. X, No. 1

ADVANCED MANAGEMENT

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Comment

THE basic elements of management are timeless. In war as in peace, managers must deal with men, materials, money, machines, and markets. The objectives and emphasis, however, are modified to meet drastic changes in the business climate.

What are the features of wartime operation that might well be carried over into peacetime? Since a discussion of this point involves consideration of the proper province of government, any adequate treatment would involve hours, not minutes. Such management gains as have been evident in wartime should be carried over into peacetime only to the extent that the optimum mixture is observed between private initiative and governmental control. With this admonition I may safely suggest a few advances that should be remembered and retained if the price of retention be not too high.

One desirable retention is the standardization of types and sizes of material, parts, and equipment. Another is the increase in labor market information concerning wage rates, employment opportunities, and manpower. A parallel advance is the systematic approach to the setting of wage rates, a development that is not new but that has been accelerated. Still another development fostered by government is labor management cooperation to effect improvements in production. If kept free from collective bargaining, such cooperation might continue with mutual advantage. Perhaps the most sweeping change of the last four years has been the increase in cooperation on an industry wide basis. This interchange of knowledge, patent rights, and even of equipment represents a significant social gain but its extent in the future will depend on the government's attitude toward it as affecting the control of monopoly.

With the return to peacetime production, the objectives of management will once more be dominated by profit-making in which trading advantage and pecuniary gains from buying and selling are the chief characteristics. In certain types of industry, those managers who are adept at shrewd trading will secure the largest returns. In industries with a more standard product, the emphasis will be upon mass selling, mass production, and the close control of costs. In such industries, those aspects of management that we associate with pre-planning and control will receive primary consideration.

Among the shifts of management emphasis that may be predicted safely, despite the perils of prophecy, are the following:

1. Governmental controls will diminish gradually, and the stimulation of individual initiative will be applauded.

2. Uniformity and standardization of product, as distinct from material and parts, will give way to stress upon uniqueness of product. In fact, alert managements will seek, in all practicable ways, to make their companies unique as to product design, quality, sales methods, and trade contacts.

3. When the government is no longer the country's largest customer, the passive attitude of order-taking will give way to vigorous sales promotion.

4. Planning for maximum production within the limits set by physical facilities and manpower will be supplanted by planning for profit in the face of uncertainties as to volume, prices, and costs.

5. Once the combined demand of government and private buyers no longer exceeds the total capacity to produce, the resultant return to competition will bring many changes. The renegotiation of contracts is likely to cease; managements will rebuild their sales departments; and managers will resume vigorous bargaining with employes and their representatives.

However radical may be the shift in objectives and emphases, those managements will fare best that have the imagination to develop uniqueness of product and trade connections, that have the objectivity to reach decisions on the basis of available facts, and that have the willingness to face change with vigor and courage.

C. CANBY BALDERSTON, Dean,
Wharton School,
University of Pennsylvania.

The Genius of Frederick W. Taylor*

By HARLOW S. PERSON

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THE generation to which Frederick W. Taylor belonged has practically disappeared; one who was born in the same year as Mr. Taylor would today be eighty-eight years of age. The ranks of the younger generation inspired and tutored by him—a group with which I have long been associated—are thinning rapidly. It is largely for this reason that I considered it an obligation as well as a pleasure to accept the cordial invitation to give this Chapter of the Society for the Advancement of Management an appraisal of Taylor, the father of Scientific Management. For the same reason, and because my memory as a participant observer of Scientific Management's development reaches back beyond the memory of nearly everyone assembled here, I have also responded to the suggestion to include something about how I became active in the Scientific Management movement. This expansion of the assignment will increase the claim on your time and patience this evening.

It cannot be said that I knew Mr. Taylor personally, although I had the privilege of shaking hands with him on two occasions, and once heard him give a lengthy exposition of Scientific Management. I did have intimate acquaintance with the younger men who had been associated with him in his creative period, and from them not only received detailed instruction in the Taylor technique, but also was afforded numerous opportunities to study Scientific Management in plants in which this technique was being developed. As part of this education were many accounts of experiences with Taylor that have never been put on record, and of course diligent searching of the records of the origins of Scientific Management. Another part was about a year as adviser to the author of the life of Taylor in the task of reducing his manuscript to the dimension in which it was published. The author of that outstanding biography, Frank B. Copley, was a painstaking fact-finder—he even as late as the nineteen-twenties sought out and talked with survivors among the workers who had been with Taylor at Midvale and Bethlehem in the 'eighties and 'nineties—and his store of work-sheets was a gold mine.

Shortly after the turn of the century I became a young dean of one of the collegiate schools of business administration which came into existence at that time—the Amos Tuck School at Dartmouth College. The principal responsibility of a dean of a new type of educational institution is to build a curriculum; usually out of very limited materials. In that connection frequently he must, as I did, take on the task of teaching a new subject until a specially trained instructor can be found. Accordingly in 1905 I offered a course in management at the Tuck School. It was pretty thin stuff, measured by the standards of these days, but it was a beginning and a commitment. So I scouted around for solid substance for the course. I soon discovered that the business world had nothing in the nature of organized information to contribute—the business man of that day took pride in being what he called a "doer," too busy to analyze the What and Why of what he did (our economy was then a sellers' market!). I discovered, however, that the engineers had been doing something creative along management lines and were analyzing their experience. In the machine-tool and metal-working industries they had been forced into management responsibilities. They carried with them into that field their engineering analytic approach. The *Transactions of the American Society of Mechanical Engineers* and the old *Engineering Magazine* were records of their experience, and constituted the only management literature of relatively solid substance. Their articles made frequent reference to a technique and certain principles of management that had been developed by an engineer named Taylor. Then at the end of 1910 came the Eastern Rate Case hearings at which engineers and industrialists presented striking testimony concerning this "Taylor System," and almost over night the press and the popular magazines were full of Scientific Management (a term devised in the course of the hearings).[1] The work of Frederick W. Taylor immediately became a subject of intensive

* Address on "Taylor Day" before the Chicago Chapter of the Society for the Advancement of Management, October 17, 1944.

[1] The records of these hearings were not published but reference to some of the testimony may be found in Louis D. Brandeis, *Scientific Management and Railroads*, Engineering Magazine Co., New York, 1912.

study in every industrial country. Here was the goal I as instructor had been seeking: an organized body of management technique that had its origins in experience rather than theory; comprehensive, solid, logical and therefore teachable.

About this time I became acquainted with Morris L. Cooke and at his suggestion organized the Tuck School Conference on Scientific Management held at Dartmouth in October, 1911. At this conference for the first time the industrial public was enabled to meet in one group the engineers and plant managers whose names as witnesses had been conspicuous at the rate case hearings. Taylor, Barth, Gantt, Emerson, Cooke, Thompson, Hathaway, the Gilbreths and other engineers were there, and industry was represented by 294 out-of-town registrants. It proved to be a very significant conference.

Taylor was of course from every angle the outstanding personality; he was recognized by all as the creative genius. Barth made a great impression by his mastery of the Scientific Management technique, and we found it necessary to turn the lights off his evening conference because his audience would not let go of him. Gantt and Emerson were stimulating especially in the area of principles and philosophy.

By a combination of circumstances the Gilbreths made a particular impression on me and opened the way for my intensive study of Scientific Management, for which I am forever indebted to them. Their participation in discussion was brief, for they had come into the management engineering field more recently than the others; but when they spoke it was with convincing clearness and enthusiasm on phases that interested me especially as one trained in the social sciences. I wanted to know about the human aspects of Scientific Management and about its universality as a technique. So I took particular notice when Mrs. Gilbreth said: "I spent several years examining and studying it, and it seems to me that Scientific Management as laid down by Mr. Taylor conforms absolutely with psychology." Then a few minutes later Mr. Gilbreth took the floor and related that after reading Taylor's *Shop Management* he had visited Mr. Taylor to talk about it; that he told Taylor the technique might be all right for a machine shop but could not be applied to his (the construction) business; that Taylor told him to really try and see; that he had followed Taylor's advice and had discovered that it did have universal application. And then Gilbreth cited by number Taylor's A.S.M.E. papers and told his audience that if anyone had doubts as he once had, they were resolved in one or another of these papers. It was all very enthusiastic and very stimulating. In the course of the meeting Gilbreth invited me to visit an application of Scientific Management technique he was getting under way in Providence, and it was there I began my studies of Scientific Management in process of development in a particular plant.

I shall never forget the sensation I had on being told by Gilbreth as we watched an operator at a machine that the man had been there twenty years and had never made a suggestion until Scientific Management came in; that within an hour after Gilbreth had given him an instruction card for the best way of operating his machine the operator had suggested an improvement that was adopted, and during the year he had made more than a dozen. That checked with what Mrs. Gilbreth had said about the psychology of Scientific Management; it arouses interest and constructive cooperation among the workers. I now believe it was at that moment that I resolved to make the study and exposition of Scientific Management a life work. Of course I was soon studying developments in other plants, notably those of Henry P. Kendall, but I am grateful to the Gilbreths for having given me the first concrete object-lesson.

I take it that generally inventive genius in relation to environment is a catalyzing force. It assembles things found in the environment, gives them relationship, perhaps improves some of them, adds new elements, and in the end gives the world something that as an integrated whole is revolutionary. For instance, if the Wright brothers had brought each part of the first aeroplane separately before the public and declared it to be something new, they would have been ridiculed. Not a single part of the physical structure of the aeroplane represented a new principle. But the design, the integration of the parts, the functional capacity of the whole, was one of man's greatest inventions. This concept helps to explain the apparent conflict between the fact that on the one hand the world in 1911 acclaimed Scientific Management as something revolutionary, which it was, and the fact that on the other hand Taylor's modesty led him repeatedly to assert that it was the result of the work of many men. At the Tuck School Conference Taylor said, for instance: "Hardly a single piece of original work was done by me in Scientific Management. Everything that we have has come from a suggestion by someone else. And, gentlemen, I

am proud of it; I am not ashamed of it, because the man who thinks he can place himself against the world's evolution, against the combined knowledge of the world, is pretty poor stuff." Taylor probably had in mind primarily the contributions in detail by those who had worked with him at Midvale and Bethlehem—Barth, Gantt and others, including workers who operated machines engaged in experimental work. But we know that positivism had been a cumulative force for a century; had stimulated research, experiment and invention; had profoundly influenced such fields as chemistry, metallurgy, machine design and construction; and was awaiting the appearance of some genius who would focus gathering scientific forces on the problem of organization and direction of human efforts in enterprise.

We know that about 1760 Perronet in France had made over-all time studies of the major operations involved in making pins, and about 1832 Babbage in England made similar studies, but that nothing further had come of either circumstance. However, although Babbage's *On the Economy of Machinery and Manufacture* had no traceable influence on organization and management of enterprises in England, it apparently had influence in stimulation of interest in quality of product, and in machine design and construction. Coming nearer to Taylor's day, in England and in the United States there began discussions of incentive wage systems in the early 'eighties, but in them was no conception of the possibility of measuring effort under standardized conditions and predetermining a proper day's work. Incentive wages were conceived—and unfortunately too generally are now conceived—simply as stimuli to more intensive effort by the workers. In 1886, the year Taylor joined A.S.M.E., Henry R. Towne presented his famous paper, "The Engineer as Economist"—that is, the engineer as a manager. This probably stimulated Taylor to an awareness of the significance of his technique, and to preparation of his paper, "A Piece Rate System," in 1893. But this could not have been the inspiration of the development of his technique, for that had been pretty well worked out at Midvale prior to Towne's paper. Taylor was a response to environmental influences just as Watt, Bessemer, Edison and others were such responses. Although prior to Taylor an all-seeing eye might have observed a thousand and one isolated efforts to improve machines and their operation throughout English and American industry, fate selected him to make it an institution; rational, organized, coordinated, continuous.

Taylor was born at Germantown, Pennsylvania in 1856. His father was a lawyer of comfortable financial status but not wealthy. The family was one of culture: history and literature in the French and German as well as English languages were read evenings around the livingroom table. There were several trips to Europe on which occasions the boys were placed in French, Swiss and German schools. It was hoped by his family that Fred would become a lawyer, and in 1872 he was sent to Phillips Exeter to prepare for Harvard. He was not a brilliant student, but he was fervently conscientious and by burning the midnight oil he led his class. Yet he was not a typical grind, for he was lively, fond of a joke, clever at amateur theatricals, and a good tennis player, a sport in which a few years later he became a national doubles champion. It was burning the midnight oil that determined his career. Impaired vision resulted and he had to give up Harvard, although he passed the entrance examinations with honors. He returned to his home in 1874 and instead of loafing got an apprentice job in a small Philadelphia machine shop. Living at home, he could afford to make a deal to work at a nominal wage if they would give him special instruction and a variety of work. He left this shop as journeyman pattern-maker and journeyman machinist in 1878, and was ready for a real job.

He picked his employer. William Sellers, head of Midvale Steel Company, was a distinguished personality in those days; a combination of scientist and vigorous, successful manager, of the type of Henry R. Towne, James Hartness and Ambrose Swasey. The Midvale Steel Company was a leading steel plant and exceptionally advanced in management. So Taylor sought a job at Midvale. Because the depression of 1873 was still felt, he was not able to get a job as either machinist or pattern-maker, but they did take him on as a shop laborer. A few months later he was made shop clerk, and a little later given a machine job. Then in rapid succession he became gang boss, foreman of the machine shop, maintenance mechanic in charge of maintenance and repairs, chief draftsman, and in 1884, chief engineer. Get these dates, for here is evidence of genius; within six years he advanced from shop laborer to chief engineer. Also during those six years, on the side, by study in absentia and passing the regular examinations he took an M.E. degree at Stevens Institute. What is of special importance to us this evening, during those six years as part of his regular activities he worked out substantially the technique of manage-

ment that came to be identified with his name; a technique so firmly founded on scientific method that it is the standard by which quality of management is measured throughout the world today—sixty years later—and by which it will be measured for many a generation.

Note also this impressive fact: Scientific Management evolved out of a succession of regular days' work by a machine shop gang-boss and foreman. There was no preconceived theory urging him on; simply each day's practical problems. Taylor was not yet a member of A.S.M.E.; he was not active in meetings of that Society; he was not participating in discussions of professional papers; he was not writing professional papers. The circumstances help to account for the realism and solidity of what he was creating; he to whom nature had given a strong endowment of genius for the scientific method, was simply solving by application of that method the real problems that arose in a factory world of tangible experience. A decade was yet to pass before he wrote any paper about it, and nearly two decades before principles were formulated.

The incident that focused Taylor's genius on the management problem was in connection with his promotion to gang-boss about 1880. A young man of twenty-four, in whom was concentrated the conscientiousness of generations of Puritan and Quaker forebears, he took his responsibility very seriously. As apprentice, as journeyman machinist and as shop record-keeper he knew that production was at an ebb because of both conscious and unconscious soldiering, and he now considered it a duty to correct the situation. The result was a mean struggle with the men under his supervision, with maneuvers typical of that ungentile period on both sides. Taylor finally won out, for the basic facts were on his side, but the experience disillusioned him. Years afterward he said: "I was a young man in years, but I give you my word I was a great deal older than I am now, what with the worry, meanness and contemptibleness of the whole damn thing; I made up my mind either to get out—or to find some remedy for the unbearable condition."

He did some hard thinking and decided that the workmen were not to blame, in view of their previous experience with unemployment and arbitrary rate cutting; that management was to blame because it had the power and capacity to discover what was a proper day's work for each operation as a basis for wage agreements. So he asked William Sellers for permission to put a machine on experimental work, using an available huge pile of scrap in the yards, and then began a search for the standards of a proper day's work, an investigation that eventually revolutionized management in all industrial countries.

It was a fortunate fact that his lathes were working on locomotive axles and tires, operations in which both handling time and machine time are both substantial and easily measurable. And it is a more than interesting aspect of his genius that he began to study, not directly how the workers performed operations, but the effect on operations of the facilities and conditions provided by management. He discovered best arrangements all along the line from power source to machine and tool—in respect of shafting; belting; design, construction and maintenance of the machine; design, tempering and maintenance of tools; and arrangements for the flow of work to and from the machines. The economy effected by improvements at any point multiplied into the economy effected at each of other points—relatively small when considered separately—was astounding; in accordance with what Emerson later called the law of dependent sequence. Such study was followed by study of how workers could best take advantage of the perfected condition of the facilities provided them. Greater strenuousness was not asked of the worker—he was asked simply to take advantage of the better arrangements. As Emerson said later, strenuousness and efficiency are opposites. Within a few months indicated savings were so great in terms of unit costs that rates could be advanced. Neither Taylor nor any of his associates was ever again in serious conflict with labor at any plant in which he was responsible engineer or executive.

Through such studies the Taylor technique was developed completely in all its parts, although in embryo, during those four years—1880-1884—while he was working his way up from gang-boss to chief engineer at Midvale. Later studies were extended with Barth's assistance to cover more complicated machines and operations at Bethlehem; and still later, after Taylor had retired, Barth, Gantt and others continued similar studies in various industries, until the technique was developed to that all-round completeness exemplified in such plants as those of the Kendall Mills.

What are the characteristics of this technique? This is an important question, for so many engineers and executives understand only some part of it but believe they understand the whole. No part has more than a fraction of its inherent value when separated

from the whole. The integration represents more than the sum of the parts: it builds up their values geometrically. The two major sectors of the technique are: first, studies employing every resource of scientific method to discover the most suitable item, design, material, facilities for production, and craftsmanship made available by the current state of technology—to discover, as Taylor put it, the laws of the managerial situation; and second, of arrangements which are summed up in the word management for bringing the laws of the situation discovered by the studies into dynamic, creative relationship. Many executives and engineers err by focusing all their interest on investigation without giving value to the results through suitable managerial arrangements for application of them to control of operations. Many others err by imitating Scientific Management arrangements without providing the basis of research-determined local standards on which their nature and effectiveness in a particular situation depend. Step by step research and arrangements must march along together. Otherwise the research may be costly dead fruit, and the arrangements may be costly misfits. But when research and indicated arrangements are developed in rational relationship, outstanding economies emerge. This matter cannot be overemphasized. And another matter cannot be overemphasized: those managers who would build solidly for the future will in a natural and rational manner make the workers creative participants in research and development of methods.

The consequence, revolutionary in the field of management, of this coordination by Taylor of research and indicated arrangements is the creation for each enterprise of an institutional mind. This mind is independent of the personal minds of owners and managers, and of other individuals who may come and go, in whose collective activities the institutional mind expresses itself. This institutional mind has its powers of perception (investigation, research, experiment), of memory (records), of reasoning (analysis and comparison), and of design (planning and arrangement). Its life is coexistent with the life of the enterprise, and it can think and arrange affairs with that perspective made possible only by such characteristics. It has capacity to think in terms of experience larger than that which comes to any individual, to define distant goals, to arrange highly efficient ways and means of attaining them, and to pursue these distant ends consistently, yet with a flexibility which permits adjustment to changing conditions.

As one striking example of research and arrangements progressing together I give you the following: Some years ago there were strikes, with serious disorders, in the South Atlantic textile mills. It was reported that the strikes had been induced in large part by "efficiency engineers" who had gone into many mills and without adequate studies and arrangements, arbitrarily increased the number of looms tended by one man approximately from thirty or thirty-five to forty-five or fifty. Now I happened to know of a Scientific Management plant, strike-free in the midst of closed plants, in which loom-tenders were reputed to be taking care of about 120 looms each. I went down there to study this arresting situation at first hand, and this is what I found:

First: the raw cotton was purchased on specification to make a particular blend determined by careful studies, and off-grade deliveries were rejected. Second: every spinning frame had been selected after experiments as best for its particular kind of work, and every frame was kept in perfect condition not only by current maintenance but also by being scheduled for take-down and reassembly at predetermined intervals. Third: because of the provisions already stated, even-running threads were delivered to the weave sheds. Fourth: in the weave sheds the looms had been as carefully selected for their purposes, and were as carefully maintained in condition, as were the spinning frames. Fifth: the work of loom-tenders had been analyzed and broken down into several operations. The heavy labor of toting and installing warp beams had been assigned to a staff of navvy-type helpers, and the very easy work of filling the batteries with shuttles had been assigned to a staff of women and girls. These arrangements left to the loom-tenders only the highly skilled work of seeing to it that machines were running properly and of tying threads when they broke. Sixth: the care taken in purchasing raw cotton, spinning even-running threads, and in maintenance of spinning frames and looms in perfect condition, together reduced the breakages of threads in the looms to one-seventh the number per hour under earlier conditions.

Now figure it out with simple mathematics: the loom-tenders were tending four times as many looms, but they were free of other work than tying broken threads; the number of thread breakages per hour was reduced to one-seventh; four times one-seventh equals four-sevenths, or a little more than one-half; the labor of the loom-tenders was only slightly over one-half of what it had been. And in addition they

had been granted approximately a 35 per cent increase in wages. This sounds very simple, but it represents months and months of painstaking work on the part of management.

It is because of several such cases that ten years after I visited this plant Elliott Dunlap Smith wrote in his *Technology and Labor*[2] (a study of the Southern textile industry) as follows: "Because technological methods of labor management had been devised by Taylor long before they were introduced into textiles and had been seasoned and developed by years of application in other industries, their application to weaving was the transplanting of a mature, scientific technique into a rule-of-thumb industry." And in another part of his report Smith said: "Labor has as much to gain from the proper use of technological measures of managerial control, as has management. By them alone can technological progress in labor efficiency take place without serious danger to labor—and such progress is inevitable. But labor is even more interested than is management in seeing that objective managerial techniques are used by adequately skilled management with full understanding of their limitations; and are used for the purpose of safeguarding labor welfare, not as refinements in labor driving."

The Taylor technique had been pretty completely developed and validated by experience before Taylor gave any thought to interpretation of its significance and formulation of principles. Perhaps we should say that he had started with one principle: that every man should do his best. That was the principle which governed the application of his own ability as student at Phillips Exeter, as apprentice, as journeyman machinist and as engineer. His technique was simply an evolution out of his daily efforts to do his best and influence others to do their bests, conspicuous among which was his insistence that in industry the primary responsibility for doing one's best rests on the employer and manager, for they are responsible for product, design and facilities of production. The workman can apply his skills only to the purpose and facilities provided. When years later he was stimulated to write about his technique and to interpret it, this was his typical condensed statement of principles:

1. The development of true science (the study of every factor in a managerial situation by application of every pertinent method developed by science);

2. The Scientific selection of workmen (in the eighteen-eighties this was empirical, but Viteles[3] rates Taylor as the pioneer of industrial psychology);

3. The scientific education and development of the workers (again an anticipation of later-day psychology);

4. Intimate, friendly cooperation between the management and the men (an anticipation of the most advanced later-day behavior psychology).

A scientist may question whether these are principles; whether they are not rather a mixture of principle and method. That is unimportant to us now; what is important is that here was not only a new technique but a new outlook on management.

Recently—half a century later—after Scientific Management had come to be applied in some measure to nearly every type of production and to every phase of management, including marketing and general administration, more inclusive statements of principles have been made. Instead of giving you my own,[4] I call your attention to that of Ralph C. Davis in his *Industrial Organization and Management:*[5]

1. Effective management requires the accurate measurement of the forces, factors, and effects in a business situation. Therefore, an accurate body of facts relating to them should be developed, by experimental research when necessary.

2. From these facts, laws of managerial and operative performance should be derived, establishing the correct relationships between these factors, forces, and effects.

3. To facilitate the work of planning, organizing, and controlling activities, standards should be developed in order that there may be criteria of proper conditions and relations in a given situation. These standards must be maintained if they are to have continuing effectiveness.

4. Maximum economy and effectiveness require that these conditions and relationships be pre-planned. Taylor's definite separation of the functions of managerial planning and of operative performance is regarded as one of his great contributions.

5. Definite procedures, specifying the correct methods for managerial and operative performance, should be developed.

The outstanding inference we should make from these statements of principles is that the Scientific Management technique is a *technique of approach;* of approach to solution of the management problem presented by each separate management situation. It is not something definite, something crystallized, something that can be bought and sold, imitated or

[2] Yale University Press, New Haven 1939.
[3] Morris S. Viteles, *Industrial Psychology*, Norton, New York 1932.
[4] H. S. Person, Editor, *Scientific Management in American Industry*, Harper, New York 1929.
[5] Harper, New York 1940.

stolen, and transferred from one place to another and installed like a boiler or a milling machine. It is a *way of discovering* what the particular management should be for each particular situation. Of course when the data for the best performance of a standard machine working on standard materials have been developed, those data are transferable so long as the machine and the materials remain the same; but a machine operation is but a fraction of a managerial situation as a whole, which in respect of most of its elements is to some degree different from every other managerial situation. The physician has a definite technique of approach to a medical case, but each case is a special problem. A lawyer has a definite technique of approach to a client's case, but each client's case is different from every other. The musical composer has a definite technique of approach, based on the basic science of sound, to expression of his musical idea, but every composition is unique. Thus it is in every case where science is brought to the aid of performance in situations compounded of variable elements. There may be a transferable definite technique of approach, but not a transferable definite solution.

The technique developed by Taylor was so sound in its fundamentals that it gave the management movement substance and form and has not lost its dominating position. It has been enriched by experience in a great variety of situations and by changes in industrial facilities; but its fundamentals as a mode of solution of managerial problems have not been modified. This makes of interest some reference to the contribution of Taylor's associates. I limit myself to the outstanding ones not now living who devoted themselves consistently to management engineering work and made some contribution of method, mechanism or device.

Whether Carl G. Barth or Henry L. Gantt came first in time depends on our yardstick. If employment by Taylor on a full-time basis is the standard, Gantt came first because Taylor brought him to Midvale in 1887. If occasional temporary work is the standard, then Barth came first because although Taylor did not bring him to Bethlehem full time until 1899, he did employ him for occasional work as early as 1884.

Gantt was of the executive type, and later Taylor occasionally recommended him for positions requiring an engineer-manager. He was less inclined toward painstaking experiments and time study than was Taylor, and eventually he came to substitute therefor his chart technique whereby graphical portrayals of progress stimulated operating personnel to make suggestions for improvement. His special contributions were, first, the task and bonus system of wage payment, which was simpler and more manageable than Taylor's differential piece rate and technically superior to premium systems. It guaranteed a day wage, paid a bonus for simple achievement of standard production, and offered no incentive for additional effort. The second contribution was a broader application than had been made by Taylor of the graphical method of recording and conveying operating information. Taylor had used the graph only in posting the current state of operations on the route sheets. Gantt extended it to every phase of management. Also, perhaps a result of his Johns Hopkins education, Gantt in later life injected into management thinking important philosophic concepts, such as his views concerning stimulation of workers' interest, as by his charts; and the view that costs not essential to production of a product, such as the cost of idle machine time resulting from faulty scheduling, should not be charged to that product but to some account that would eventually become a deduction from surplus.

Carl G. Barth is outstanding in importance as an aid in development of the technique. He was in the drafting room at Wm. Sellers' Company from 1880 to 1890 when Taylor was working out his technique at Midvale; but later, in 1899, Taylor called him to the Bethlehem staff, and during the remainder of Taylor's life he relied on Barth more than on anyone else for working out details of the technique, for Taylor himself disliked the mechanics of investigation and analysis.

Barth did not have the imagination and capacity to organize and direct the studies of others, which were aspects of Taylor's genius; but he possessed certain abilities in larger measure than Taylor, and was a perfect complement. Barth was a mathematician of the first order; he had extraordinary analytic ability; he was patient and persistent and accurate in his experiments and analyses. He did more of the detailed work in development of the technique than did Taylor himself, and undoubtedly the bulk of data reflecting in detail the development of the technique is to be found in the Barth files.

Next was Harrington Emerson, who was not immediately associated with Taylor but absorbed effectively the significance of the technique and the principles being put on record in discussions at meetings of A.S.M.E. and in the *Transactions* of that Society. Emerson was conspicuously a business man, successful in organizing and directing the work of

others, and he was a skillful writer and speaker. It is my judgment that his outstanding contribution was the interest he aroused in the movement by such books as *The Twelve Principles of Efficiency*. One can read and reread that book and get no cue to a technique, but one is inspired by the skill with which management goals are defined. Emerson was the publicist who gave an uplift to the nascent interest in the concept of efficiency on the part of American industry.

Youngest in time of entering the field among the group who got their inspiration directly from Taylor was Frank B. Gilbreth. He came into the management picture shortly after the turn of the century. He was an extraordinary man: a human dynamo of vitality and energy; possessed of active imagination; intellectually brilliant, with a penchant for experiment; a ready and persuasive speaker.

The outstanding contribution of the Gilbreths was as you know the use of the motion-picture camera in recording and analysis of motions and times. Taylor had always referred to use of the stop-watch as "time and motion study," because discovery of the more significant and economical motions was got at by comparison of unit times of various workmen of high skills. The motion-picture device permits emphasis on motions by direct pictorial analysis, and is referred to as "motion and time study." While the bulk of standard times in industry is still determined by stop-watch methods, the micro-motion technique made two fundamental contributions: first, superior measurement of those operations in modern industry involving a repetitive series of very short-time elements; and second, the superior effectiveness of pictures of comparative methods as an educational device to arouse interest and give understanding to workers generally in the matter of conservation of human energy. The Gilbreths were very competent and effective writers: their little book *Primer of Scientific Management* (1912) was a gem of exposition of the Taylor technique; others of their books have been important contributions to the literature of fatigue.

I am occasionally asked about Scientific Management in the world of tomorrow. I am not a prophet, but I am willing to assert that its influence is bound to increase, and probably with acceleration as the problems of economic society and of individual concerns become more acute. When life is at stake Scientific Management is likely to be called in—sometimes in time; sometimes too late. Admirals Peary and Bird knew in advance of their expeditions that a group of lives would be every moment at stake, and their preparations and management were perfect examples of Taylor technique—research, time studies, standards, plans in terms of standards, routing, scheduling and all the details of control. A circus is a similar example of Scientific Management because its life is at stake; it simply could not exist, that is, could not do business in a different community day after day, if it were not controlled by Scientific Management technique. The operations sector of the modern military establishment is the most impressive present-day example of the technique. The nation feels that its life is at stake; the major officers know that their professional lives and the actual lives of millions of men are at stake; down the line there is a corresponding understanding. So every officer and soldier seeks the best and ever better ways of doing things; plans and prepares in advance in terms of standards; schedules and executes with measured energy and time factors. Many among us still talk about the obsolete "military organization" as a contrast to advanced functional organization; but in fact the operations sector of the modern military establishment is an outstanding example of Scientific Management and functional organization.

But the representative business man and his plant executives are victims of habit—the habit of trusting to the familiar and to hunches and snap decisions. What was good enough for their forebears is good enough for them. They believe they will maneuver through or muddle through in some way. They still assume that business is a matter of maneuver and outwitting, and ignore the fact that they have committed vast capital to fixed mechanical and organizational form whose stability, welfare and survival is dependent on wise planning of the adjustment of the enterprise to changing environment, and effective planning, preparation and control of operations. The psychology of ownership and management is to overrate the permanence and value of conditions and methods that have brought success in a distant past, and to dread change. Usually they do not sense the problem of survival until they are in extremis, and then too late they turn to Scientific Management. In consequence, although American industry is spotted throughout with thousands of fragments of Scientific Management, there are relatively few all-round developments of the integrated structure.

The group identified as industrial engineers carries a heavy burden of responsibility for this situation. Because the typical business man is allergic to change and responsive to suggestions that minimize change,

some professional industrial services temper their activities to the psychology of the client, and range from outright quackery at one extreme, through well-meaning but inadequate development service, to a high quality of Scientific Management technique at the other extreme. I shall not dwell on the quack; the owner or executive who is not intelligent enough to detect and avoid him deserves his fate. There may have been some justification for being taken in by the fly-by-night "efficiency engineering" that seized the opportunity to exploit an eager industrial world immediately after the Eastern Rate Case hearings, but that justification no longer exists.

The well-meaning but inadequate development service is much more serious, chiefly because it can carry into its promotion a good deal of plausibility and suasiveness. This dangerous type of service usually takes one of two forms, both based on the failure, to which I referred earlier this evening, to recognize that Scientific Management includes two complementary groups of elements, each of which may be a costly failure without the other. On the one hand is scientific investigation and analysis to discover the laws of the situation and the particular standards that fit the particular plant; on the other hand is the making of arrangements that implement the laws of the situation; that effect maintenance of the standards, planning, preparation and generally control of operations which are dynamic and variable. There are some services that concentrate on the investigation and analysis side, feature recording and measurement of experience, frequently by means of some particular device, and never get around to establishment and maintenance of standards and development of effective planning and operating controls. On the other hand, some attempt to install a ready-made scheme of operations and control in terms of generalized standards discovered in other situations that do not fit the particular situation, and after these engineers have left a client, the structure collapses. Worst of all is the engineer who promptly installs an incentive wage system without any special study of the operating situation and improvement of facilities, methods and conditions, thereby throwing on the worker all the burden of getting increased output under artificial stimuli. In such instances as I have cited there may be a honeymoon period in the relations of engineer and client, but eventually a divorce; and because of the failure, the owner or manager who paid the cost vows, unfortunately for himself in the long run, that he is off management engineering services forever.

There still remain in mind certain among many wise things said at the Tuck School Conference thirty-three years ago this month. Barth said of the relations between client and industrial engineer that both should select the best man of suitable temperament and interest already in the organization to serve as middleman, the function of the consulting engineer being to teach and coach him, to make of him an alter ego, so that when the consultant leaves, an equivalent is left in his place as a permanent part of the organization. And both Barth and Gantt said that the first step is always to bring about an orderly condition and procession of everything in the shop—get facilities in order, materials and tools under control, a planning department established—altogether a task of a year or two—before beginning to study and measure and evaluate the work at the individual workplaces. General efficiency should be increased first, without special concern for the efficiency of the individual worker; in short, management should first make itself efficient.

We have a situation in which the naturally conservative owner or executive, properly cautious of any meddling with his going concern, is made the more conservative and cautious because industrial engineering is not yet established as a profession and has no commonly understood standards of training and performance by which to appraise competence. Neither the substantive law nor the adjective law of industrial engineering has been codified. Therefore it behooves the wise owner or executive to make himself sufficiently informed concerning Scientific Management to be able to judge its value as an integrated *technique of approach* to betterment of his particular managerial situation, and to use it as a standard of appraisal of the real values among the variety of industrial engineering services available to him.

These considerations make it evident that one cannot foresee the influence of Scientific Management in the world of tomorrow except in the broadest terms. It depends on the owners and managers in industry today. Just as Scientific Management in the individual plant is a matter of development rather than installation—a matter of evolution—so Scientific Management in a nation's economy is a matter of evolution. Scientific Management of tomorrow will be an extension of Scientific Management of today, but Scientific Management of today has not yet caught up with the Scientific Management Taylor made available yesterday. Therefore it is the owners and

managers of today who will determine the extent of Scientific Management tomorrow.

Of one thing we may be certain: as we enter a new world created by a global war the problems of our national industry and of every individual enterprise, especially the middle-sized and small ones, will become more complicated and more critical. More and more among individual enterprises, and perhaps in total industry in respect of its present structure, there will emerge the problem of survival. Where survival is a problem there will be a turn to Scientific Management. But how much wiser it would be for owners and managers to set their managerial houses in order now, and not wait until the critical last moment.

On many occasions both Taylor and Gantt declared that in the words of Gantt, " . . . the work we are doing has not as its aim the development of a series of expedients to promote efficiency. We are trying so far as we can to solve the industrial problem . . . " The industrial problem is a problem of life and of livelihood, of the creation and distribution of a social income, comprising things essential to maintenance of life, such as food, clothing and shelter, and of things that make life worthwhile, such as satisfaction of the instinct for play and of aesthetic sensibilities. These satisfactions can be had only by the sweat of our brows, but labor can be an enjoyable experience if freed of waste and frustration and if creative effort is measured with reasonable accuracy and justly rewarded.

"We hold these truths to be self-evident: that the individual man has dignity and worth in his own right; that it is better to be governed by persuasion than by force; that fraternal good will is of greater worth than a selfish and contentious spirit; that in the long run all values, both for the individual and for society, are inseparable from the love of truth and the disinterested search for it; that the truth can be discovered only insofar as the mind of man is free; that knowledge and the power it gives should be used for promoting the welfare and happiness of all men rather than for the selfish interests of those individuals and classes whom intelligence and fortune have endowed with a temporary advantage; and that no form of government yet invented is so well adapted to realize these high ends as one that is designed to be a government of the people, by the people, for the people."[1]

[1] Carl Becker, Political Philosophy on Thomas Jefferson, American Historical Review, July, 1943.

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The Dilemma of Management

By OSWALD KNAUTH

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I

EVERY organization constantly deteriorates. And this is especially true of a business organization. It loses customers—through death, through change of location, through the lures of competitors. It loses its personnel from the same causes. Its physical equipment is constantly wearing out and becoming obsolete. Its location becomes less convenient.

It is the primary function of management to rebuild at a rate that exceeds these losses. Management can never rest. If it does, the organization deteriorates. It must attract new customers. It must provide for trained replacement in advance of necessity. It must study new inventions, new devices and better methods. It must initiate a flow of experiments. It must foresee crises, and lay plans to meet them.

The success of our industrial system rests on the ability of its management.

II

A brief sketch of the growth of the large corporate institutions is needed to lay the background of the present dilemma which has overtaken management. This must of necessity deal only in broad outlines, for the great current has many eddies and side streams.

Business corporations in the modern sense are in the main a product of the last fifty years. The great corporations that have grown up during this period have become national institutions, subject to ups and downs, but almost impervious to elimination by bankruptcy. It is around these great institutions that the present dilemma of management centers.

Legally and theoretically, the great institutions rest on the same basis as the small corporations. Originally, these small corporations were started by a group who at once were stockholders, directors, and managers, who devoted their full life to the success of the project. With the passage of time, stock ownership became more and more diversified, until a public offering spread this ownership very widely. The main stockholders, however, retained directorship and management. Then came the mergers of family organizations—mostly around the years 1900–1910, into large institutions—thus accentuating the differentiation between ownership, directors, and managements. But the theory remained the same: Stock ownership retained the source of power.

But the evolution did not stop here. Stock ownership became too widely diversified to exercise its rights, so that directors and managers had leadership thrust on them by default.

We are in the midst of the painful process of groping for new concepts and new customs to meet the necessity for perpetuating good management in our great institutions.

III

All the influences of the last half century have tended to scatter stock ownership among a vast number of people.

An exact count is unattainable, owing to the large amount of duplication, and the various forms of ownership through trusts, investment, holding corporations and the like. Here and there, remain vestiges of concentration, acquired through inheritance or some legal form, which give its owners a certain degree of cohesive power. But generally these concentrations are small; and they are only important because there are no other equally large concentrations to oppose them. These vestiges only emphasize the dominant characteristic of scattering.

Neither theory nor law has adjusted itself to resolve the sterility of this situation. Ownership of a single share entitles any individual to certain rights of an opinion and a knowledge of the facts to the same extent as ownership of many shares. But even ownership of a large interest may not entitle an individual to any voice in the choice of management, provided he is outvoted. In actual management, such ownership is reduced to a nuisance value, which can be very great indeed. This can be further reinforced by a stockholder's suit for fraud, malfeasance or nonfeasance. At its most potent worst, it can put a stop to development.

IV

The position of directors has evolved along several different lines. Directors originally were the working mouthpiece of the stockholders, among whom they were normally among the largest and the most capable. Their duties and responsibilities were not clearly

defined, simply because there was normally no pressing need for such definition. By right of ownership and ability, they were also the policy making management. Such assistance as they needed in management at the lower levels could be hired just as labor was hired and capital was borrowed.

But with the passage of time, sometimes in the throes of averting bankruptcy; on other occasions in the arranging of a merger, or in the financing of an expansion, a new type of director was introduced. The financiers who made the new arrangements received a place on the board of directors, originally to establish a contact through which they could keep themselves currently informed of the success of the undertaking.

But this introduction of new blood quickly developed further. Once the barrier of ownership was let down, directorships became the tool for obtaining advance information, favors and back scratching deals which were enormously profitable. One beheld the astonishing spectacle of individuals who were directors in thirty or more corporations.

Many of the reasons for enlarging the group of directors were entirely proper and advantageous. Special knowledge of some aspect of the business requiring expert guidance brought in a new type of director. Lawyers, real estate experts, officials of other corporations with whom the business had close relations, were valuable assets. Certain of the more capable managers who had grown up in the business asserted their position, even though their stock ownership was lacking or negligible. These received a place on the board of directors. Such new aspects of directorship lent themselves readily to private dealings which might sacrifice the interests of the stockholders in as far as ownership and management had drifted apart.

There is no doubt that many of these abuses were real, and they led to the next step. With the prying open of the lid of secrecy in corporate affairs, directors found themselves liable for the acts of the corporation, whether or no they had any direct part in those acts. Nonfeasance was judged to be on the same plane as malfeasance.

This is where the director finds himself today. The acts of management in the daily conduct of the business—its contracts, its salary payments, its development of new channels—all matters of business judgement—may be challenged by any stockholder. This induces an attempt for a judgement whereby a loss will be found and the directors held individually responsible for restitution. Here we have a degree of accountability comparable to trusteeship. And yet, no safeguards, no established method of action, no rules of conduct, similar to those which surround trusteeship, have been laid down. At one bound, directors move from freedom to trusteeship. Recent court decisions are indeed sufficient cause for turning the most honest and courageous director into a timorous mouse.

The problem of whether the board of directors should direct, or whether it should confine itself to the selection and evaluation of the management, is not solved. As the typical board is now constituted, it is usually capable of neither.

Through the passage of time, the membership of a board of directors has generally come to consist of several large stockholders, several representatives of institution-held blocks of stocks, several financiers representing ancient connections with the corporation, several experts of various sorts, and quite a number of the active management group. This last group is usually just more or just less than half the total.

The management group are the only ones capable of directing the daily affairs of the enterprise—indeed, they are usually the more capable in inaugurating as well as carrying out the policies. But surely they are not organized so as to be an effective tribunal to judge their own ability.

The first named groups have neither the time, nor the inclination, nor the daily contact needed, to direct affairs in an active sense. But they are in general men of wide acquaintance, of much experience, and with a close personal interest in the success of the enterprise, either financial or moral. Hence they are eminently qualified to appraise with a sure touch. In addition, through their varied contacts, they are fitted to select a new management when change is necessary.

But the trend of recent developments has tended to force each group into the field occupied by the other.

V

The evolution of the place of management in a business corporation has been affected by, and, to a certain extent paralleled that of stockholders and directors. Starting at the same point, the completion of the life cycle of the original owner-managers left mainly those who had grown up in the business as capable of carrying on. There are instances of inherited position, but they are unusual. Normally, capable men were available, or could be found; and they were

hired by arms-length agreements. They generally were given an interest in success, either through stock ownership or participation in profits. But the change was fundamental. No longer were the managers also the creators: theirs was the task of continuing an existing organization. They lost the original unity of purpose, concentrated solely on the interest of the stockholders. Instead, they had to consider the organization as a whole—and that meant giving weight to the place of directors, employes, customers, and general public relations. They ceased to be the dominant type, and became skilled in fitting into an existing social and economic order. And in this they were assisted through the decline of the place of stockholders. For their position depended not so much on any single element, as on the success of the entire venture.

Indeed, so independent did they become that they felt themselves justified in withholding vital information from stockholders, who, after all, were the legal owners. The excuse was that it was unfair to give information to one that was not available to all—and obviously certain information might well be dangerous competitively. There is real justification for this attitude.

Tenure of management became dependent on a relatively small degree of success. For so scattered are the other forces in the corporation complex that only the most compelling situation could unite them for action.

This relative immunity gave to management a power that it could—and frequently did—abuse. They had never taken on the responsibility of trustees—for technically they were the hired employes of the stockholders and free to look after their own interests. At best, it requires nice discrimination to separate morality from immorality. At worst, the interpretation of morality becomes fantastic.

Partly spurred by the SEC and the Stock Exchange, but also partly driven from within, managements have drastically changed their policies in regard to secrecy during the last years. For their own protection, they have sought the sympathy of their stockholders and the public in general. Campaigns of information have been carried on—and annual reports are veritable fountains of information. The example set by the pioneers in this movement has fallen on fertile ground. At times, it appears to have become a competitive race in publicity.

This evolution has, however, had one unfortunate effect: it has hampered much of the spirit of originality and courage. Business judgement must always take into consideration the possibility of being wrong—and honest errors may be twisted into venality by the quirks of law.

Management thus becomes timid, and the more so because they know that they are dragging their directors into the shadowy area of interpretation of intent. Discussion takes the place of action—and progress drags.

VI

Here then, is the dilemma. Management is the spark plug which makes our industrial system operate. And yet it has by default become an almost self perpetuating group, uncertain of its powers, its duties, and its rights.

Moreover, the change in the type of managers is important. The original owner-managers brought into existence the business they operated; they literally created their own positions. Their names were often over the front door. They dominated every detail. In contrast, the present incumbents grew up as employes and were selected to become the managers. They owe their position to some person or some group. Theirs is the function of carrying on, rather than of creating. Technically, they are hired, and the recent tendency is to insist that their terms of employment be made at arms-length bargains. Their point of view becomes tinged with the political, to the detriment of the economic. They are adept not so much in creating a situation, as in adjusting themselves to circumstances.

As a consequence, a minimum need would seem to require a clear definition of the position of management, so that within those limits it could operate effectively. Management deals primarily with its Board of Directors, but owing to the evolution which directorship has undergone, this relationship is a hazy mixture of friendship and antagonism, of cooperation and criticism. Directors must tread a narrow line indeed in fulfilling their obligation both to stockholders and management.

This situation becomes even more aggravated in the relationship of management and stockholders. Owing to the wide practice of holding securities in names other than that of the owner, such as trusts, holding companies and dummies, it is impossible for management to identify more than a small portion of the owners. Normally, a list is made out once a year, but it is almost meaningless. This practice has grown up, not so much for the sake of concealing ownership, though it does that, as simply for convenience. But it

has the effect of removing from all possibility the creation of that personal acquaintance on which feeling of loyalty is built. The sense of cooperation which is so essential to the success of any enterprise is belittled, if not lost entirely.

Even when great efforts are made to meet the stockholders personally, for the sake of explaining the nature and risks and problems of successful management, the results are disappointing. Several comprehensive campaigns have been conducted for the purpose of filling this gap. Moreover, the message they have to bring is an exciting one. There are many dramas connected with the operation of a large corporation: inventions; the introduction of a new product; the development of personnel problems and solutions; the effects of changing habits and styles; the impact of the business cycle. Perhaps it is inevitable that stockholders are interested in dividends rather than the conditions under which they are earned, but it is surely unfortunate.

From the management point of view, dividends are not an end in themselves. They are not to be achieved by direct action. Rather, they are the result of the coordination of the many forces which affect the total operation, both external and internal. Dividends are an outward sign of success, which is necessary; and failure to earn them engenders a sense of frustration which weighs heavily on all concerned.

In so far as management feels any personal strain on its sympathy, this is more likely to center on the welfare of the employes, especially on two classes: those who have been there for many years, or those who seem to have a particularly promising future. The latter are those on whom the future welfare of the enterprise will depend, and there are generally not enough of them. The former are people of flesh and blood, who are giving their lives to the organization. Their claim is a very real one. Management sees them daily, knows their histories, their home problems, their illnesses, their efforts, and their weaknesses. Much of the satisfaction of management lies in watching these people build satisfactory lives for themselves. Hence, pensions, sickness benefits, classes, and the like, are more and more common. Hence the twenty five year clubs, and the fifty year clubs.

This sympathy, however, is not likely to be shared by the Board of Directors. Engrossed with their own affairs, they are apt to miss the drama, and concentrate their attention on the balance sheet and statement of profits. For without special effort, and a rare ability to probe beneath the surface they fail to sense the living struggle, the extra efforts, the close decisions and the anxieties which make the balance sheet what it is. How could it be otherwise?

But there is another aspect of this situation. The small stockholder who is really interested in the enterprise finds himself excluded from knowledge of his own property. In fact this is not due merely to his own laziness; actually, a true understanding of any large enterprise is an extraordinary difficult task. Properties are scattered, policies are intricate, contracts are carefully guarded, the good will of customers is not easy to appraise. Subtle forces are at work, either of deterioration or improvement, which only show up in the balance sheet after they have attained enough strength to be clearly visible. Even the experts fail to catch them in advance.

When the stockholder anxiously inquires for information, he is informed that he is entitled only to such facts as are generally available. His suggestions will be given due consideration. Management is polite, but firm.

Owing to this impotency, stockholders have come to consider their ownership as a source of income, rather than as a situation to which they are closely bound, and which they are interested in improving. They seek their safety, then, in their ability to sell out, and seek income in some more promising situation. Professional advisors stand ready to serve them. Holdings are diversified, separating the stockowners more and more from knowledge and influence in the properties and organizations. The ease of purchase and sale is an inducement to carelessness, magnifying the importance of chance opinion and rumor. Even the Securities and Exchange Commission has had little effect in stemming the strength of the trend which has caused this situation.

The proper role of enterprise ownership in a capitalistic system becomes more and more difficult. Investment is a game of wits, dangerously analogous to speculation.

All of this leaves a fine open field of operation for the professional trouble maker. Quite a school of sharpshooters has arisen in the last years, skilled in utilizing the border-line areas for their own advantage. They dig around just enough to burst forth with the wildest insinuations. Already have they been able to achieve a nuisance value far out of proportion to their importance, but the possibilities are barely scratched. Annual meetings have become battlefields of accusation and explanation, rather than a serious discussion between interested parties.

This, of course has the excellent effect of reminding management that it is not a free agent, but the representative of others. The price, however, is heavy. Management is driven to maintaining protective records, rather than being stimulated to push for new successes. The atmosphere is not conducive to the display of initiative.

VII

There is no quick and easy solution for the dilemma. It has developed over many years, out of the complexity of our industrial system, so that it cannot be regarded apart from the circumstances which brought it into being.

Indeed, it has its analogies in other fields. In labor unions, no longer is the manager a selection from the rank and file membership. Many complex problems are involved in the management of a labor union requiring study and experience, so that the group who have made leadership a profession are far removed from the membership. In Government also, political leadership has evolved to a point where it is difficult to recognize that it sprang from the original New England Town Meeting. Considerable rationalization is needed to bring them into harmony. This separation of management from rank and file appears to be the necessary result of complexity.

But we are concerned with corporate management, and certain improvements seem obvious:

First, the annual election of officers is too frequent. No policies or skills can be adjudged on an annual basis. They run on a five or ten year cycle. As an actual fact, very few changes are made more frequently. The annual election converts this most important act of the stockholder into a perfunctory affair which induces him to vote, or give his proxy, carelessly. On the other hand, fewer elections would give those who advocate change an opportunity to organize and present their case more effectively. It would also force stockholders to make a careful appraisal of the results attained by the existing management.

Second, directors should be paid a fee commensurate with their duties and responsibilities. Once the benefits of advance information are removed, the reward of directors is insufficient. It is not enough that they should devote their spare moments to the task, as they do for many charities. There are no easy solutions for corporate problems today; on the contrary, much time and study must be devoted to the formulation of policies that will stand the test of time.

Third, closely connected with this is the encouragement of a class of professional directors. By the term is meant, persons who hold no fulltime position, but who specialize in being directors of a number of corporations. This is only possible if they receive a substantial fee from each one, so that they can maintain an independent position, and yet be under obligation to render services for value received. Their morals should be comparable to those of a doctor or a lawyer.

Here and there, one may discover the beginning of such development. The varied contacts and experiences of such a group can be of the greatest value to the management; and it also improves their judgement in appraising success.

Fourth: The protection of both management and directors from personal liability. Driven by the experience of the last few years, a number of corporations have taken initial steps in this direction. But the situation is not yet fully met.

Fifth: Every means should be used to change the shareholder into a permanent owner, with all that this implies. The basic weakness of the whole system can be traced to the decline in the personal aspect of ownership. Management has jumped in to fill the void; but it is only a substitute. Directors with a social conscience struggle to lend an air of permanency. But neither can replace the loss of intelligent, responsible ownership.

Already, a new concept of duties and responsibility has spread far into the management of large corporations. Most of the criticisms being levelled at them are out of date, pertaining to the groups in control a quarter of a century ago. Very few of those survive today, nor do their methods dominate present day thinking.

Todays managements think in terms far beyond their stockholders: they have in mind the welfare of their employes; the stability of the industry; the prosperity of the community; and the laws under which they live. An enormous amount of time and energy goes into matters connected only indirectly with the business. Strictly speaking, it can be justified only on the proposition that business needs a successful country to be itself successful.

It is typical, rather than exceptional, that today's managements value not alone the good opinion of their immediate associates, but of the community at large. And it is a curious commentary that they have succeeded less in achieving such a position than their more dominant and self-seeking predecessors.

Practical Strategies in Facing Fixed Attitudes*

By GEORGE E. AXTELLE

Associate Professor of Education, Northwest University†

MR. OLDS, a union organizer, had been directed by his national office (at that time a CIO union) to organize factory X in C, an upstate town in New York. The factory had moved from New York City to C to escape unionization and high taxes. The town made many concessions in the form of services and reduced taxes to induce Mr. Mills, the owner, to locate there. Mr. Mills decided upon the town not only because of these concessions, but because there were no unions in the town and the community was proud of the fact. An earlier attempt by the IWW to organize the town had been put down at the expense of much blood and violence.

Although the town itself, predominantly Protestant, was deep-set in American history and tradition, about 80% of the workers in the plant were first or second generation Italians, about equally divided between Sicilians and Calabrians, who incessantly quarreled and fought with each other. The remainder were from nearby farms. Most of the Italians considered themselves "good" Catholics and regularly attended one or another of two churches in the community. The older people could speak little or no English and clung stubbornly to their native traditions and mores. They were excitedly nationalistic. Pictures of religious subjects and of Mussolini could be found in most of their homes.

The workers in the factory had many grievances but none were taken to the boss. He had early taught them that the price of such indiscretion was their job. Individual wages were low, but since entire families worked in many instances their combined earnings were substantial.

It soon became clear to Mr. Olds that any effort to organize in any factory would meet the combined opposition of all the manufacturers of the town. In fact as soon as his presence in the town was known to them, they set up a strike-breaking agency. Although the Wagner Act had become law they were convinced that it would be declared unconstitutional.

When he first arrived the workers were afraid to speak to him lest they lose their jobs. Moreover, they were suspicious of labor organizers in general. They knew that Mussolini had destroyed unions and imprisoned their leaders. That in itself was enough to convince them that unions were not good for them.

The organizer recognized that he had a three-fold task to develop solidarity among the workers, to win the sympathy and support of the rest of the community, and to develop such attitudes of management and labor toward each other that they could bargain effectively once the plant was organized.

The Organizer Wins the Support of the Workers

Mr. Olds learned that although a strike nearby had been lost and many of the strikers still were idle, the union still held the loyalty and enthusiasm of its members. Their bitterness was directed, not against the union, but against the employer. He decided that he must help this union keep its membership intact. He helped organize educational and recreational activities, brought in prominent speakers, and often spoke to the group himself. Through the members of this union he made many contacts with the employes of Mr. Mills' factory, some of whom attended these meetings.

He could speak to the workers of factory X only in their own homes. He learned Italian to talk with the older people. He made it a point to study Italian history and particularly the ideals, aspirations and dreams of Garibaldi, Mezzini and Cavour. He associated their ideals with those of organized labor. He made the acquaintance of the two priests. He became acquainted with the boxing crowd, attending their exhibitions.

In talking with the workers he persuaded them that the union would be beneficial to them in the factory. He told them of the benefits organization had brought to workers elsewhere. During his conversation he was careful not to blame the management for wages, hours, or working conditions. Instead he maintained that it was to the owner's interest as a business man to keep his expenses as low as possible. If the workers wished higher wages and better working conditions,

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† On leave to the Shipbuilding Stabilization Committee, War Production Board.

The above is a true account of an organizer's experience related to the writer by Mr. Gregory Bardacke, Office of Labor Production, War Production Board.

they must depend upon their own efforts but what they achieved they could achieve only through self-organization.

This was the time of the most intense controversy between A.F. of L. and C.I.O. The manufacturer thought he might thwart the union by inviting the A.F. of L. into his plant, but Mr. Olds was able to forestall this because he had already established effective relationships with the A.F. of L. unions in the community.

The employer charged that unions were run by racketeers who were interested only in dues from the workers and in highjacking bribes from management with threats of strikes. He tried to incite a riot against Mr. Olds on the charge that he was a "communist" and a constitutional agitator and troublemaker. (Not, as he later told Mr. Olds, that he had anything against him, but business is business.) In the face of these attacks Mr. Olds refused to become abusive, pointing out that the employer was doing what he could to defeat organization but thought he was badly advised.

He predicted that when these methods failed the employer would use another tact. He would then offer higher wages and better working conditions. He warned them, however, lest they be bought off by these concessions, that what could be voluntarily granted might likewise be withdrawn. He cautioned them to keep their eye on the ball—organization. As a result the workers failed to respond to these concessions when they were made.

The manufacturer then attempted to frighten Mr. Olds out of town. He got word to him that if he did not leave town he would go out in a box. Mr. Olds realized that the workers would desert him if they thought him a physical coward. He moved out of the hotel, taking a room in the working class district, and exposed himself to as many physical dangers as possible. He made it a point to walk home alone at all hours of the night. Nothing happened. Workers who had joined the union now came out in the open and helped sign up other workers. Soon 80% of the workers were signed up.

In the meantime the other employers came to Mr. Mills' support. A gang of strikebreakers were imported and all preparations made for open violence.

The Organizer Works with the Community

Mr. Olds cultivated the leaders of the various groups in the community, formal and informal. Speaking to the leaders of the farm group, he pointed out the dependence of their prosperity upon the purchasing power of workers. He finally succeeded in breaking down the traditional animosity between them and organized a farmer labor council consisting of an A.F. of L. dairy farmer's union and the C.I.O. council of the county. This council eventually became a political force in the county. In this way, he unified the A.F. of L. and C.I.O. and the farmers in support of the organizing drive.

Mr. Olds was invited to speak before fraternal organizations and women's groups. He discussed with them the history of the labor movement in the United States, emphasizing its indigenous character. He spoke to the Chamber of Commerce showing them that the more money the workers earned, the more business the merchants would get. He analyzed the financial aspects of factory X indicating that Mr. Mills could substantially increase wages and still make a good profit.

He cultivated the Chief of Police, taking him into his confidence and coming to him for advice. He also cultivated the ministry emphasizing the objectives of the union as the social and economic application of christian and democratic ideals. He elaborated upon the social action programs of their respective churches.

He became acquainted with the editors and reporters on the local papers. He gave them a full account of his work. He worked closely with them often being permitted to write their stories about the labor situation for them.

He circularized statements of manufacturers who had union agreements, evaluating their unions; indicating the ways in which their unions were helpful to their business and refuting the prejudice against unions as obstacles to management. He made considerable use of scientific studies regarding wages, standards of living, profits, distribution of the national income, and influence of consumers purchasing power upon general prosperity. He proposed certain minimum standards of living as essential to self-respecting American citizens and indicated what these standards meant in terms of wages for families of different sizes. By these standards, he very simply summarized the common objectives and interests of the union and the community.

The Organizer Wins the Personal Respect of Mr. Mills

Shortly after coming to town Mr. Olds saw Mr. Mills. He assured him that the union was not interested in running or ruining his business. He argued

that the union meant stabilization and stabilization meant prosperity. He had no notion that he would persuade him. His purpose was rather to establish relations upon which he might build later. They found several things in common and they parted on a friendly personal basis. Personal respect in no sense softened their attitudes toward each other in their respective capacities as owner and organizer. But Mr. Olds was building for the longer future when the two would have to cooperate.

The Strike

After several conferences, Mr. Mills finally announced that he had no legal right to bargain with the organizer because he had a contract with an "independent union." The membership thereupon voted a strike which stopped production. Since the local police were friendly with the union, the sheriff and his deputies were called in. The manufacturer hired strikebreakers who occupied the factory but produced no goods.

The strike and picket lines lasted for eight weeks. There were 140 arrests including charges of assault and conspiracy. The strikers tried to avoid violence as much as possible but this was difficult in the presence of the strong arm strike breakers.

The Contract Is Signed

At the end of eight weeks of bitter conflict, the employer signed the first closed shop contract in the history of the county.

Once management was brought to bargain collectively, the bargaining proceeded calmly and rationally since no personal bitterness had been injected into the situation by the organizer. The contract signed, Mr. Olds proceeded to set up permanent educational and recreational programs for all the employes. Those who had not struck were invited into membership on equal terms. The strikers were more interested in persuading than punishing the non-strikers.

Soon the factory was in full production again and management and workers on friendly and cooperative terms. The workers, well paid and having a sense of security, did more and better work. Mr. Olds indicated to them that their level of pay depended entirely upon the income of the factory which in turn depended upon quantity and quality of production.

Other interesting developments followed rapidly. The Italians, having confidence in Mr. Olds and their union and appreciating what both had done for them, listened to his remarks about Fascism and Mussolini. He praised Italian art, music, and literature; and called their attention to the effects of Fascism upon them and upon the Italian people and their unions. He pointed out the incompatibility between Fascism and Christianity. Soon Mussolini's pictures were on the rubbish heaps.

The Farmer Labor Council continued to function, and in the next primaries doomed the political careers of those public officials who had actively and viciously fought the union. The organizer had successfully activated various community groups whose leaders spoke to union meetings on community problems. The union is now an accepted and respected part of the community. Mr. Mills says that he would never run a factory without a closed shop.

Analysis

If the foregoing picture of the events in the mill town had been drawn by Mr. Mills instead of the labor organizer it would, no doubt, have included some dark lines which do not appear in the present form. The setting for the analysis which follows would have been more adequate if such an account from Mr. Mills were available. Unfortunately, this is not the case. The events have been reported at length, therefore, as presented through the selective memory of the labor organizer. Although the setting is thus admittedly incomplete, the account has been set forth in order to show: (1) the manner in which contests between deeply conflicting interests within a community involve that community in practically every phase of its life, and (2) the way in which the achievement of a reconstructed policy in such a case requires reconstruction throughout these many phases of the people's life. Inasmuch as the report of the opposing side is not included in the data available, the merits of the case as an enterprise in organization cannot here be completely assessed. It is not the present purpose to underwrite everything that was done. The case is presented as illustrating the ways in which such a conflict can be carried toward resolution in the interest of the whole community. The precise degree in which this larger interest was served could be determined eventually only through extended study. But the case as reported leaves little question that the method used did approach the community in its full scope and did succeed to a remarkable extent in locating and cultivating an active common acceptance. It is particularly to this method that attention is drawn.

The case may be studied to advantage by noting how it exhibits the three major phases of a complete practical judgment.

Getting the Facts in the Case

Mr. Olds worked hard at this phase of a complete judgment. Considering the strong bias under which he operated, he seemed to be unusually objective in gaining a factual grasp of the existing state of affairs. The situation into which he came was highly complex and confused.

This complexity and confusion of the situation reflected itself in the characters of both the community and the persons in the community. Mr. Olds found contradictory attitudes, values and perspectives, not only between different groups and persons, but within them as well.

Attitudes, moral principles, and perspectives, originating in the earlier phases of capitalism, existed along side those which have grown out of our present highly specialized, mass production, corporate and interdependent economy. Those ideas and attitudes of earlier origin were expressed in such stereotypes as "free enterprise," "private initiative," "there is always room at the top," and "the right to work." Those of more recent origin have not yet been crystallized and standardized into stereotypes, hence they lacked settled expressions. The earlier perspectives had a competitive advantage in public discussion so long as it was kept in general terms. When specific problems arose involving economic relationships and conflict of interests the stereotypes broke down.

Underlying these conflicting perspectives were the conventional perspectives of the Christian, scientific and democratic traditions, which are held in common by most of the community. These perspectives had their stereotypes too, but they were not frequently resorted to in practical situations. Their aura of sanctity tended to isolate and preserve them for purely ceremonial usage. Their presence however must not be ignored, for, as we saw, they were available to practical situations when someone perceived their applicability.

Mr. Olds came to know that all these conditions and outlooks were there. We see him talking with the priests and the Italian workers in terms of familiar expressions from their religious life and to the middle class and farm groups in terms of stereotypes from American History, related to the workers predicament. He made an appeal for the Scientific Method and its application in understanding the particular situation.

He correctly sized up the major characters, especially that of Mr. Mills. Mr. Mills clearly lived in the more conservative perspective, and its symbols fell readily and heatedly from his lips. He had little patience with or understanding of those who criticized his world. He was deeply troubled and angered by the inroads of unions, their "encroachments upon the prerogatives of management and ownership." He had not only a personal interest, but a holy zeal in preventing the further "destructive tendencies" of our time. He therefore was determined to use every influence at his command to thwart the organization of his workers which he considered but one instance of these "threats to civilization."

In a similar manner, Mr. Olds knew the characters of the workers and of many other persons and groups in the community. He knew that in order to change the situation at C, the other characters involved in it must be changed. He seemed to spare no effort, therefore, to acquaint himself with them.

Mr. Olds further surveyed the situation at C for his own guidance. He attempted to discover the more important organizations and groups of the community, their distinctive interests, prejudices, attitudes, and sympathies, particularly toward unions; their relations to one another, their natural leaders, and the natural leaders among the workers themselves. He learned in detail of the irritations, grievances, and attitudes of the workers toward the management, wages in the plant and earnings of the company, and the character of management. He made use of historical and scientific data relating to the industry, wages, and living costs, standards of living, comparisons of wages of organized and unorganized workers, other accomplishments of workers elsewhere, the national economy, and other data which had bearing upon the problems of the workers in the plant and the community.

Projecting a Community Goal

Another of the three phases of a complete judgment had to be fulfilled by the organizer. Mr. Olds came with a goal to propose to this community. In part, at least, he hoped that this would become the community's accepted goal. His immediate objective was to develop a sense of solidarity and common interest among the workers in the plant and in the community and a recognition of the need for self-organization to serve those interests.

He sought to develop a sense of community interest between the workers and other groups in

the community. He also sought to develop a recognition of the need for self-organization of the workers as an instrument to their common interests.

He sought to shape a new inclusive perspective, an eventually uncoerced community of persuasion out of the common elements of the competing perspectives and of the underlying christian and democratic traditions. He aimed at a perspective which would honor the role of management as it would honor other socially productive interests of the community.

It was equally important to his purposes not only that the community give the union moral support but that the union derive its strength from its integral role in a unified community.

A Plan of Action Developed

Following is the plan of action initiated by Mr. Olds in his efforts to organize the workers at C. He established working relationships with the leaders among the workers and other groups in the community, who as leaders, were personal symbols of the attitudes, interests and perspectives of the community including the workers. He attempted to restructure their symbols and stereotypes. He honored their moral principles, attitudes and loyalties, but by reinforcing those which were congenial in an inclusive perspective he hoped to isolate and weaken those which were not. He proposed to the leaders of the community a state of affairs as their goal which honored and released the energies and interests of their respective groups, and which respected their deeper normative principles. He proposed a set of objective standards against which the community could evaluate situations and activities. Having created solidarity among the workers and won the support of large segments of the community, he coerced Mr. Mills to bargain. Mr. Olds now sought to establish the good will, good faith and cooperativeness of the union within the framework of the new relationships of bargaining. Respecting all the characters in the situation, including Mr. Mills, he sought their reconstruction in part through the reshaping of symbols, of moral principles and perspectives. Above all he was interested in developing characters that would be skilled in maintaining this positive community in the presence of subsequent conflicts.

Coercion and Power in Public Judgment

Mr. Olds knew that coercion alone would not compel Mr. Mills to change. He knew that on the basis of coercion alone the young union would have a doubtful future. Mr. Mills in this incident is but symbolic of the management role. Should a particular person serving as management be unable to adjust himself to the changed situation, a new person would take his role. If he is owner, he might be forced to sell out. If president of a corporation, the board might assign the labor relations function to a newly created vice-president in charge of labor relations. Had coercive power alone been employed, the union would never have succeeded. But had it not been applied with determination the union would never have survived. The continued presence of this force, along with a changed climate of opinion, eventually broke Mr. Mills' coercive power, softened his fixed attitudes, and brought him to turn to what the union had made his only alternative if he was to continue this business—collective bargaining.

The illustration and analysis here have been taken from the experiences of a labor organizer. The general method employed, however, is suggestive for other types of situations in which one party has fixed attitudes and coercive power.

It applies to international relations. A statesman may employ similar procedures in dealing with an aggressor nation. The problem is twofold. On the one hand, it involves an appeal to the common interests of other nations and of groups within the aggressor nation itself. On the basis of an uncoerced community of nations, sufficient coercive power may be concentrated against the enemy nation to thwart its aggressiveness. Appeal to interests within the enemy nation which are common with the universal community may eventually reconstruct the character of the enemy nation itself and make it eligible to the larger community.

It must be emphasized, however, that the use of force alone to balance another force may have great consequences for evil. Coercive power must be accompanied by procedures appropriate to the eventual formation of an uncoerced community if its evil consequences are to be avoided.

The fundamental objectives in such instances are the achievement of a voluntary community and the shaping of judgmental characters competent to preserve such a community in successive controversies. The method consists in the reconstruction of the ideals, interests, symbols, normative principles, ideologies and perspectives of the leaders of the community involved. Mr. Olds and labor seemed unable to get this reconstruction in C without the

use of coercive measures. But for every such rise of force he saw to it that many other measures of uncoercive influence were taken. The net result of all these measures, including the coercive ones, was an eventual voluntary community of outlook and action. The possibility that a variety of measures can be put in operation at one and the same time is the secret of the eventual success of such a change as that effected in the mill town C.

There is a power balance needed if the peaceful deliberative settlement of conflict between interested groups is to succeed. In the heat of conflict such various uncoercive measures as were taken by Mr. Olds have often been neglected by both sides. The result is just a continued threat of conflict. But today uncoercive measures can be added to the measures of force. They *are* being added, and new leaders disciplined in methods that better combine the coercive and the uncoercive measures are coming to replace those who can only coerce. This is the need of practical intelligence in every social relationship. The goal is an uncoerced acceptance.

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Wartime Lessons in Wage Administration

By C. CANBY BALDERSTON

Dean of the Wharton School of Finance and Commerce, University of Pennsylvania, and Assistant Chief, Civilian Personnel Branch, Industrial Personnel Division, Army Service Forces

THERE is, perhaps, no aspect of industrial management more puzzling than the setting of wage rates and salaries. It touches a sensitive nerve in every individual on the payroll; it affects costs and the ability to compete. Though it can be approached systematically, wage setting can never be reduced to solution by formula. The fact that appraisals of job difficulty and of individual performance cannot be removed from the realm of human judgment means that wage setting is an art, not a science. As in other phases of management, however, wage setting decisions can be made more consistent and more fair, if the systematic approach is used in the setting of base rates and of output standards. The more consistent the base rates and incentive arrangements and the more consistent the task-times, the more fair and satisfactory will be the wage administration.

Wage setting should be judged by two sets of tests: (1) personnel criteria, (2) cost criteria. The personnel criteria relate to the degree to which the wage setting helps to recruit and maintain an effective working force. The cost criteria reflect the general level of compensation in relation to the efficiency of the force.

Scope of Wage Administration

Wage administration includes the description of job content, the evaluation of relative difficulty, the determination of the price of labor in the labor market, the determination of wage and salary schedules, and their application to individual employes after a systematic appraisal of individual performance. It includes, too, the development of incentive pay which is contingent upon measured results. It covers, therefore, the determination of output standards and the extra pay for achievement measured against them.

Wage administration does not include the determination of the content of each job. This is an operating responsibility. It does not include organization relationships for their determination is an organization problem. Nor does wage administration include the staffing of the jobs that have been created because staffing is likewise an operating responsibility. Although wage administration is inseparably linked with both operating and personnel decisions, it does not itself include the creation of jobs and their matching with qualified men and women.

What Are the Elements of a Wage Administration Program?

Before attempting to analyze the strengths and weaknesses of our wartime experience with the setting of wages and salaries, it may be well to illustrate each of the principal elements of a wage program. The program of the War Department will be used to demonstrate the development and application of a wage rate schedule arrived at systematically. This program has been installed in about 2,000 establishments of all types located in all sections of this country and Hawaii. It applies to the job rates of civilian employes who are neither paid under the Classification Act nor employed on new construction.

The example will illustrate the problem of achieving consistency among all the plants of an employer and flexibility for each of the individual establishments. The activities vary from the highly technical operations found at manufacturing arsenals to the routine maintenance jobs associated with each camp. The program had to meet the requirements of the Chemical Warfare establishments, the machine shop work of the arsenals, the vessels under the Corps of Engineers, the warehousing of the Quartermaster Corps, the storing and loading work of the Ports of Embarkation, and the merchandising activities of the post exchanges.

Prior to the adoption, in September 1942, of the new wage program, wage rates, even within a single establishment, were set by each of the several technical services, each one acting independently. Since the methods of rate setting varied as did the form and amount of payment, different rates were paid for the same jobs. The new program embodies two fundamental principles: first, the alignment internally of jobs in each facility in accordance with their relative importance; and, second, the "pricing" of those jobs in such a way that the general rate level in each installation conforms to the general level prevailing in its labor market. The issuance by the President of the

"wage freeze" orders (the first on 3 October 1942) has made it impossible to apply the second of these principles without some modification.

To determine satisfactory internal alignment, the content of each job must first be known and described. Job titles or designations, used alone, are misleading in the extreme. A story, probably apocryphal, attributed to a former President, will illustrate the point. It is said that a delegation of morticians waited upon him and that he misunderstood their vocation and addressed them briefly on the contribution that bricklayers were making to this country. Whereupon, one mortician remarked to another, "We lay them, too."

After an accurate job description for each job is at hand, the process of job evaluation may be used to measure the relative importance of the jobs. Job evaluation is a measuring process that uses group appraisal by informed individuals. Since such appraisal involves human judgment, the result should not be looked upon as having mathematical accuracy. Despite this weakness, an alignment arrived at systematically and without bias is much to be preferred to the chaotic relation of job rates that obtains in the absence of systematic job evaluation. The result of this process is expressed in grades of difficulty. For instance, under the War Department's plan, common labor is assigned to grade 2; skilled labor to grade 3; trades helper to grade 5; bricklayer to grade 15 and toolmaker to grade 20. The alignment of jobs internally in accordance with their relative importance may be visualized most easily if the job titles and the grades assigned to them are arranged in a ladder diagram. A typical ladder diagram is shown in figure 1.

The second major objective of the War Department Wage Administration Program is to establish a satisfactory relationship between the general "level" of rates in each installation and the general "level" of rates paid by other employers in the labor market. In order to accomplish this objective, it is necessary to conduct a locality-wage survey to ascertain rates prevailing in that labor market. Such a survey need not cover all jobs and occupations found in an installation but merely those jobs that can be described with clarity and that are common to most plants in the area to be covered. Reliable information collected for selected key jobs, even if there be only ten, twenty, or thirty of them, is preferable to sketchy information selected from an inadequate sample of companies for jobs that are not well known. The wage information

LADDER DIAGRAM

Grade	Job Title
1	Laundry Shaker
2	Auto Tire Changer Laborer
3	Incinerator Worker R. R. Trackman
4	
5	Helper Roofer
6	
7	Oiler
8	
9	Locomotive Brakeman
10	Radio Repairman
11	Painter
12	Carpenter Head Baker Rigger
13	
14	Machinist, maintenance
15	Automotive Mechanic, Tanks Welder

FIG. 1.

collected should be secured by direct personal contact with the cooperating plants and on the basis of job descriptions, not job titles.

The localities for which the War Department has collected information, on a confidential basis, as to the straight-time hourly rates prevailing are indicated on the map, (see figure 2). For each one of the localities surveyed the average rate for each key occupation used in the survey is plotted on a chart of the type shown in figure 3, provided the information applies to an adequate number of plants and employes to be considered valid. Through these individual job averages, there is drawn the "line of best fit," in order to provide an easy means of describing the typical relationship in that labor market between wage rates and grades of difficulty and responsibility.

The economic soundness of basing the general level of rates in a given plant or establishment upon those prevailing in its labor market is revealed by an "iso-rate" chart, (figure 4)* of the rates found in the United States for labor designated as grade 1 under the evaluation plan of the War Department, (grade 1 may be thought of as the janitor grade, and a grade lower than that assigned to common labor). Despite the leveling influence of the movements of industry and of population, geographic differentials persist. In certain seacoast areas, especially on the Pacific Coast, rates for unskilled jobs classified as grade 1 are approximately double the corresponding rates in other sections of the country, especially in Mississippi and Georgia.

A rate schedule for a particular establishment is developed by combining the ladder diagram reflecting the job alignment considered satisfactory for it, (see figure 1), with the chart of rates prevailing in the locality, (see figure 3). Such a combination is shown in figure 5. The position of the several jobs along the base line of the chart is derived from the ladder diagram, and the five "step rates" assigned to the jobs in each grade are centered around the "line of best fit," which reflects the rates prevailing in the community for work of corresponding difficulty. The result of this marriage is a systematic schedule of rates providing a rate range for each grade. This schedule, if properly developed, should achieve both fundamental objectives: a satisfactory internal alignment and a satisfactory external relationship of basic rates.

It is of some interest to note the rate at which a wage program may be applied to a large and complex organization, the plants of which vary greatly as to size, location, product and type of operation. Figure 6 shows the cumulative number of employes brought under the new program during the year 1943, in which an effort was made to complete the application of the program to establishments of the Army Service Forces. The organization of the Army Service Forces may be likened to a giant holding company with at least 17 subsidiary companies, each of which has many plants or establishments. A few trial applications were made with the aid of the technical staff of Headquarters, Army Service Forces. Thereafter, the application was completed under a policy of decentralization by which those responsible for each establishment made the job descriptions and the preliminary evaluation of the jobs. Those at each establishment had the guidance and help of the wage administration staffs of the technical services and service commands, (i.e., of the "subsidiary companies"). These technical services, such as Ordnance, Quartermaster, Chemical Warfare, and Corps of Engineers, and the nine service commands could, in turn, lean upon the wage administration staff of Headquarters, Army Service Forces. The latter reserved to itself the final review of the assignment of jobs to grades and the determination of the level of pay for each locality. The retention of this authority at Headquarters was considered necessary in order that the wage schedules of all establishments in the same locality would reflect the same level of pay. Only thus could be avoided the unsettling effect that occurs when employes in nearby establishments find that different rates are paid for work that is similar or identical.

We come, finally, to the heart of any successful application of a salary administration or wage program. The best of schedules is spoiled by faulty application of job rates to individual employes. If a rate range is provided, the importance of appraising the performance of each individual within the limits of his job becomes all the more imperative, if charges of favoritism are to be avoided. Consequently, systematic man-rating is the handmaiden of job-rating. It offers to operating management a useful tool in determining the all-important question as to whether an employe's contribution to the work of his establishment entitles him only to the lowest rate for his job, to the highest rate for his job, or to one of the step-rates between. Some type of periodic review of performance is essential if promotion and rate setting are to be managed intelligently. If such review is to avoid the charge of being arbitrary and capricious, it needs

* "Iso-rate" chart (figure 4) developed by Captain Robert H. de Beer, Army Service Forces.

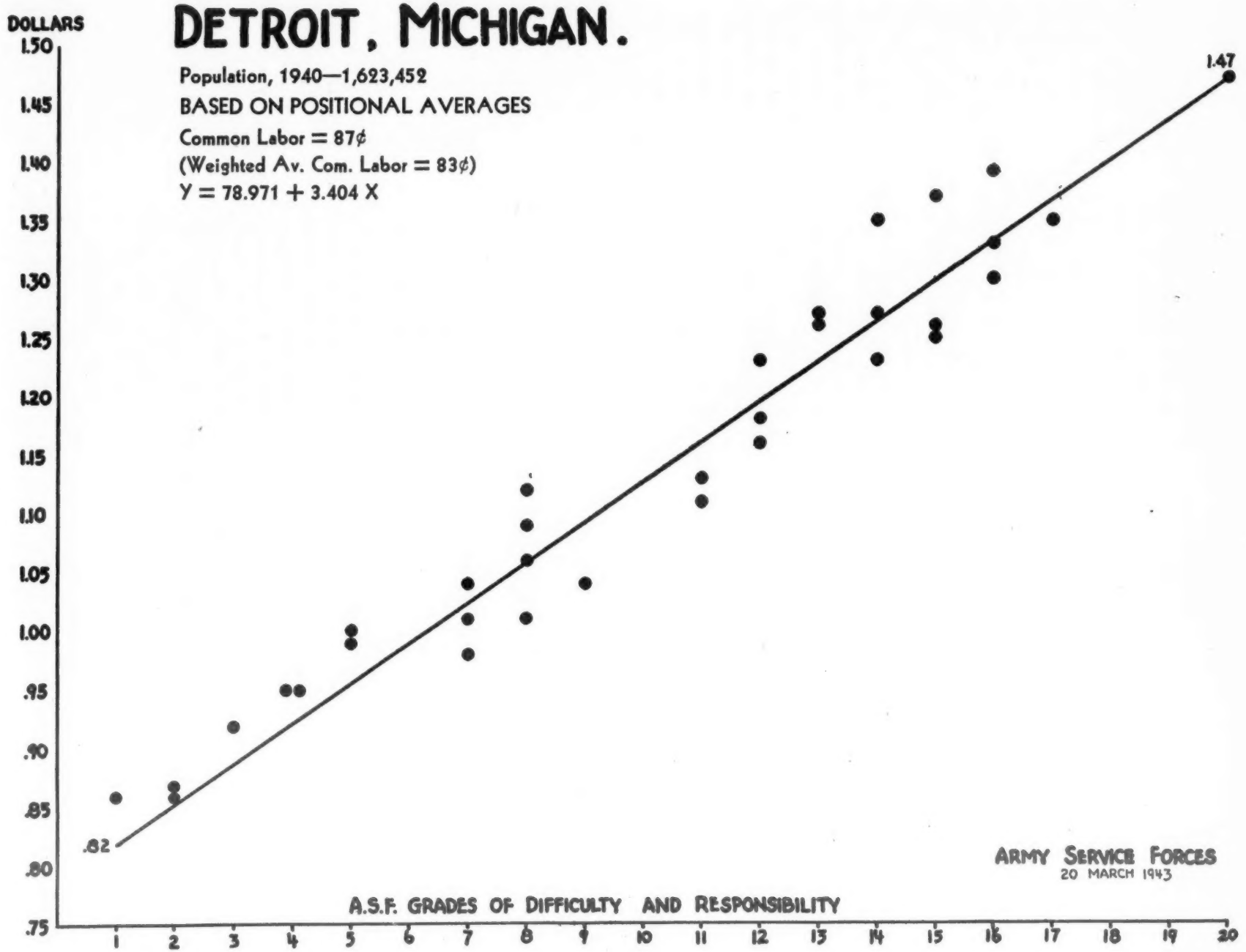
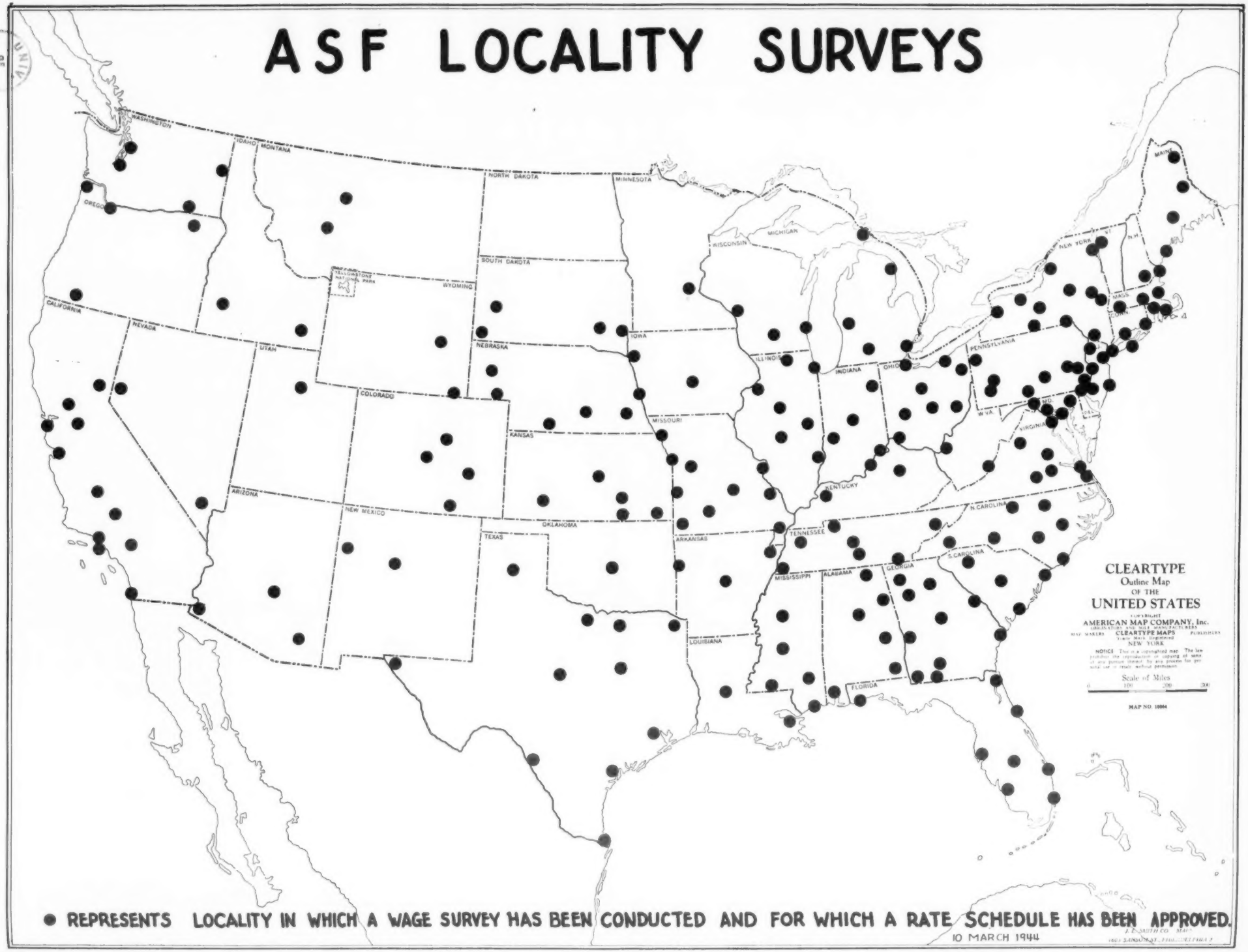

DETROIT, MICHIGAN.
Population, 1940—1,623,452
BASED ON POSITIONAL AVERAGES
Common Labor = 87¢
(Weighted Av. Com. Labor = 83¢)
Y = 78.971 + 3.404 X
DOLLARS
1.50
1.45
1.40
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
.95
.90
.85
.80
.75
1.47
.82
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
A.S.F. GRADES OF DIFFICULTY AND RESPONSIBILITY
ARMY SERVICE FORCES
20 MARCH 1943

FIG. 3.

Fig. 3.

A S F LOCALITY SURVEYS



● REPRESENTS LOCALITY IN WHICH A WAGE SURVEY HAS BEEN CONDUCTED AND FOR WHICH A RATE SCHEDULE HAS BEEN APPROVED.

10 MARCH 1944

A S F WAGE RATES

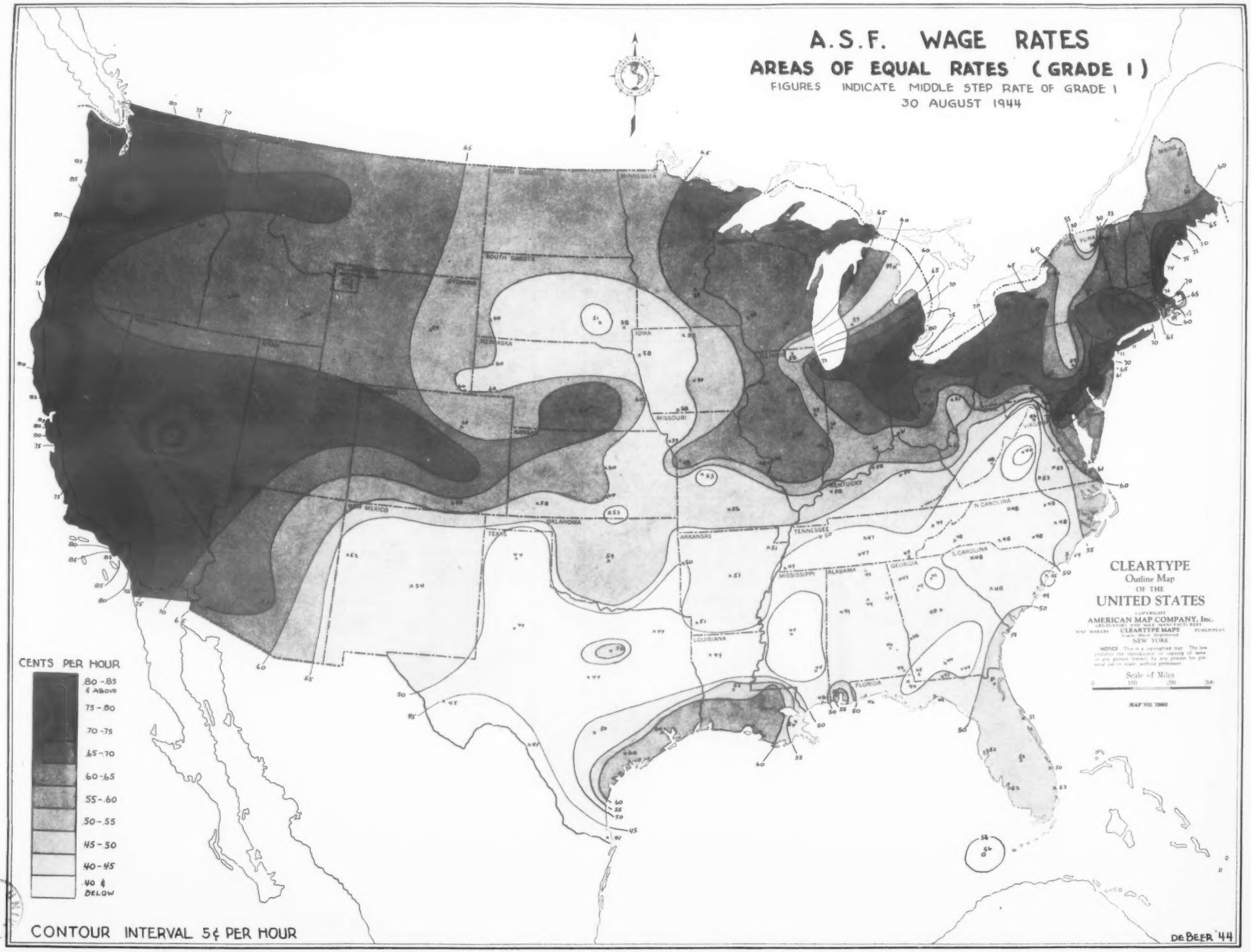
10 MARCH 1944

A.S.F. WAGE RATES

AREAS OF EQUAL RATES (GRADE 1)

FIGURES INDICATE MIDDLE STEP RATE OF GRADE 1

30 AUGUST 1944



J. L. SMITH CO. - MAPS
1601 SANSOM ST., PHILADELPHIA 3

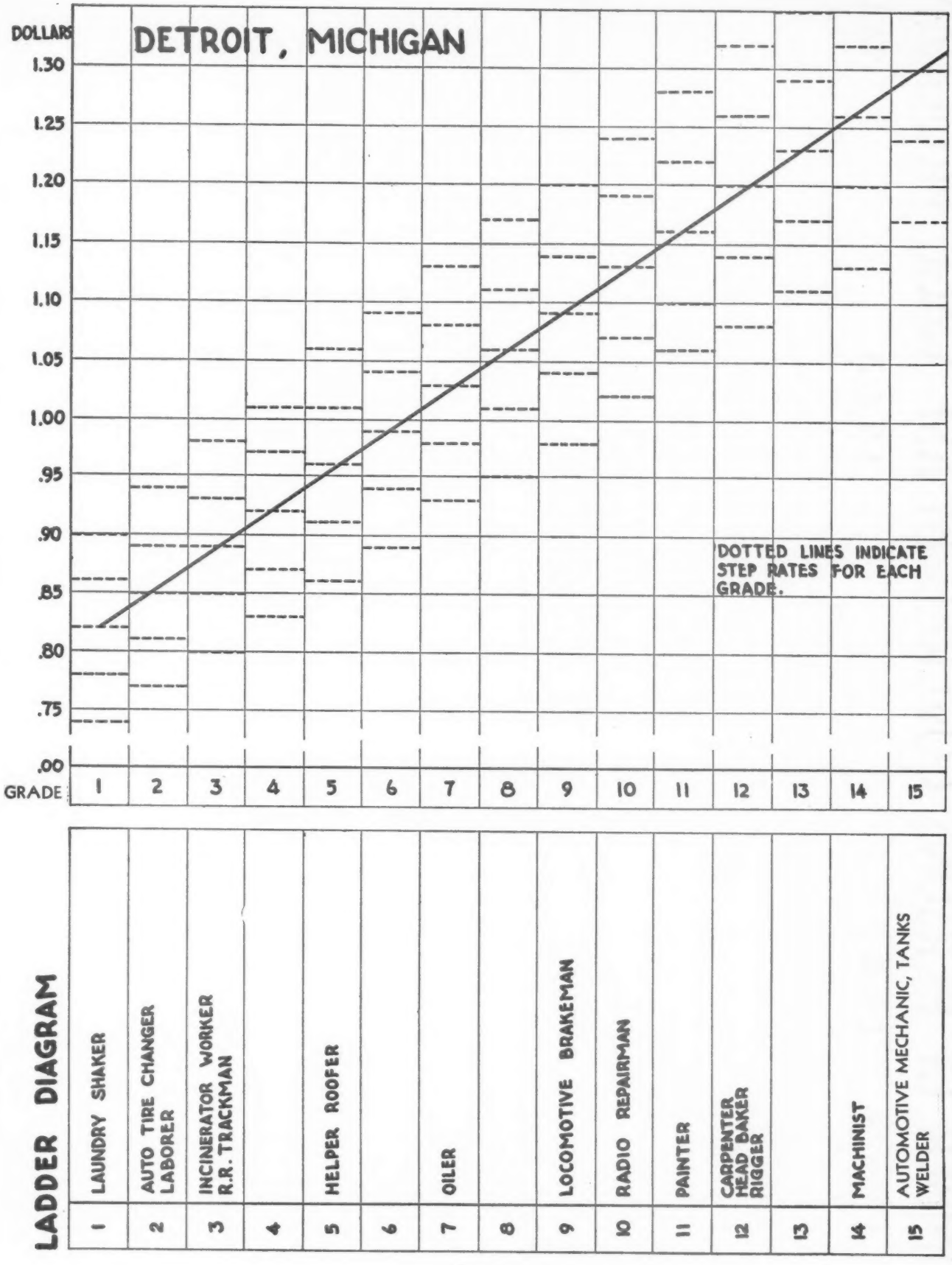

DETROIT, MICHIGAN
DOLLARS
1.30
1.25
1.20
1.15
1.10
1.05
1.00
.95
.90
.85
.80
.75
.00
GRADE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
DOTTED LINES INDICATE STEP RATES FOR EACH GRADE.
LADDER DIAGRAM
1 LAUNDRY SHAKER
2 AUTO TIRE CHANGER LABORER
3 INCINERATOR WORKER R.R. TRACKMAN
4
5 HELPER ROOFER
6
7 OILER
8
9 LOCOMOTIVE BRAKEMAN
10 RADIO REPAIRMAN
11 PAINTER
12 CARPENTER HEAD BAKER RIGGER
13
14 MACHINIST
15 AUTOMOTIVE MECHANIC, TANKS WELDER

FIG. 5.

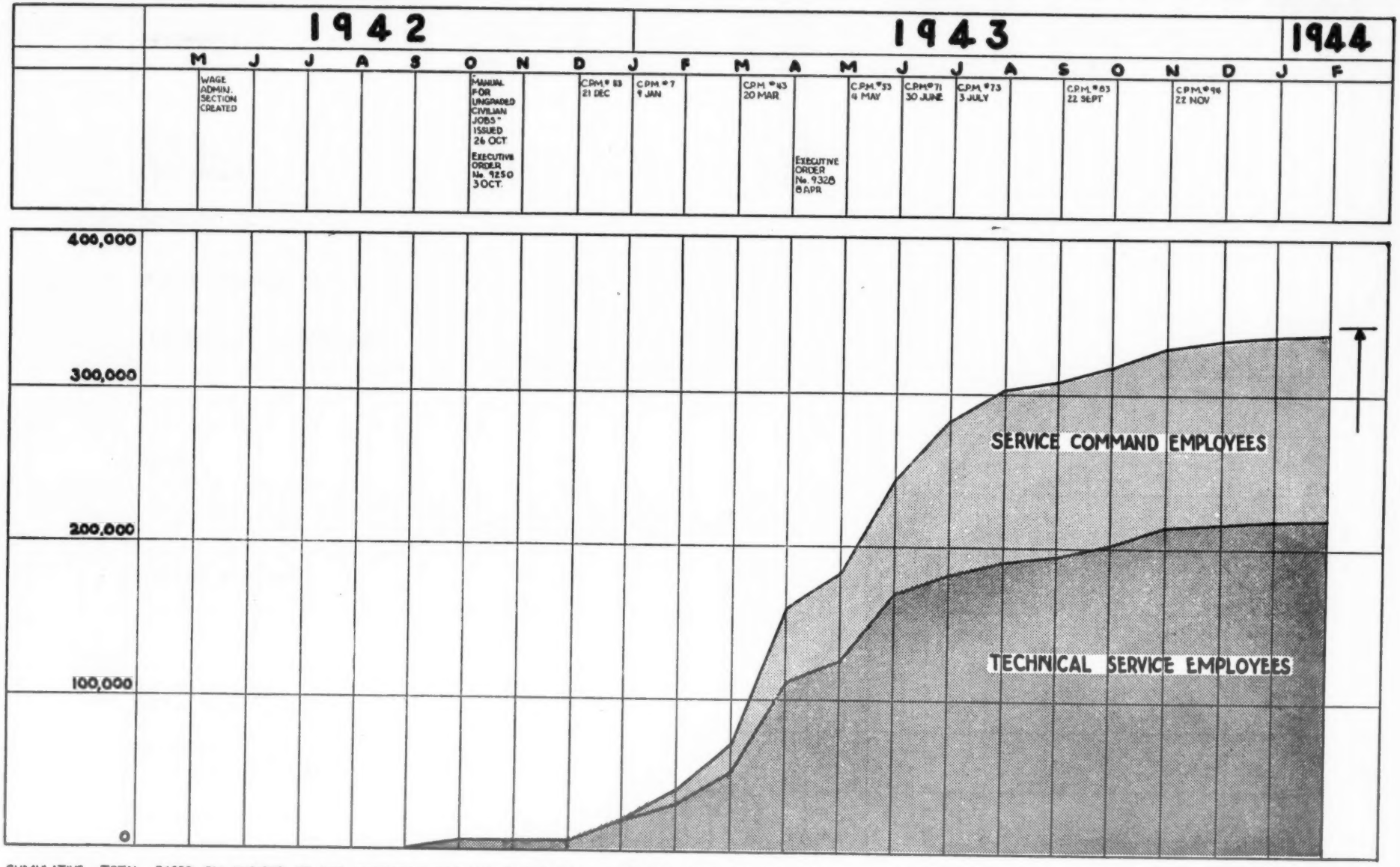

NUMBER OF PERSONS COVERED BY ASF WAGE PROGRAM
1942
1943
1944
M J J A S O N D J F M A M J J A S O N D J F
WAGE ADMIN. SECTION CREATED
MANUAL FOR UNGRADED CIVILIAN JOBS" ISSUED 26 OCT.
EXECUTIVE ORDER No. 9250 3 OCT.
C.P.M.* 83 21 DEC
C.P.M.* 7 9 JAN
C.P.M.* 43 20 MAR
EXECUTIVE ORDER No. 9328 8 APR
C.P.M.* 53 4 MAY
C.P.M.* 71 30 JUNE
C.P.M.* 73 3 JULY
C.P.M.* 83 22 SEPT
C.P.M.* 96 22 NOV
400,000
300,000
200,000
100,000
0
SERVICE COMMAND EMPLOYEES
TECHNICAL SERVICE EMPLOYEES
CUMULATIVE TOTAL BASED ON NUMBER OF ASF UNGRADED CIVILIAN EMPLOYEES REPORTED EACH MONTH BEING COVERED BY ORIGINAL WAGE SCHEDULES. (EMPLOYEES COVERED IN REVISED WAGE SCHEDULES AND THOSE ASF EMPLOYEES AT CLASS III INSTALLATIONS NOT INCLUDED)
(ASF, 10 March 1944)

FIG. 6.

the benefit of a systematic appraisal of each individual by those supervisors who can render informed and objective judgments.

What Wage Lessons Have Been Learned during Wartime?

1. Companies that did not have a wage and salary program, systematically arrived at, found themselves less able to cope with wage setting problems than those which had adopted definite wage policies and given them concrete expression. The absence of such guiding policies was found detrimental by companies faced with rapid wartime expansion, but it remained for the "wage-freeze" orders to drive home solidly the point that schedules are essential. The Atlantic Refining, Eastman Kodak, and Proctor & Gamble Companies have had relatively clear sailing; other companies have been in constant difficulty. An outstanding example of a plan developed on an industry-wide basis is that of the Southern California Aircraft industry.

2. A sound internal alignment may be arrived at by several methods: point rating, ranking, factor comparison, or job comparison against established "benchmarks." It is pointless to argue the relative merits of point rating, ranking, etc., as if these methods were mutually exclusive. It would seem far sounder to select the method or methods best adapted to the given situation. If more than one method is used, the results obtained by each may be compared in order to bring to light the small percentage of jobs where the evaluations are not in agreement. This method permits the time of top management to be applied, on the "exception principle," to the settling of moot questions.

3. Rapid changes in product, process and job content have emphasized the importance of keeping wage and salary schedules up-to-date. The necessity for continuous attention to this problem will not cease with the arrival of peace because one of the certainties in this area of management is the certainty of change. Companies have found themselves required by War Labor Board regulations to seek the approval of rates for new or changed jobs. One company has had to make 111 different submissions for approval. Failure to observe this injunction will leave managements in trouble when they are finally forced to establish new rates for work that is no longer the same as that described in the original descriptions. Such companies will have no basis for explaining to employes just how much the changed jobs have been modified.

4. Many companies have learned the tragic consequences of mishandling the compensation of foremen and other supervisors. Somehow top management assumed that this group would remain a loyal and faithful and non-vocal segment of management, even if mistreated. In making this false assumption, the groundwork was laid for the extension of union organization at this level. When the hours of work of rank and file employes were first extended, the differential in take-home between the foremen and those supervised by them was narrowed; in fact, many foremen found themselves taking home less money than did those whose work they were directing. Such companies, caught by the "wage-freeze" had then to apply for relief to the salary stabilization units of the Commissioner of Internal Revenue.

5. One of the advances of the war period has been the extension of systematic salary schedules to include higher executive positions, than heretofore. It is true, of course, that job evaluation becomes less and less reliable when it is applied to the higher positions in the executive pyramid. The higher the position, the more the man makes the job. Companies have discovered, however, that the indiscriminate setting of supervisory and executive salaries leads to trouble.

6. Another advance in the use of wage setting has been the increase in wage rate information. All parties concerned with wage levels have more reliable information as to prevailing rates. Much could be done, however, to make wage data more usable and more indicative of the wage structure prevailing in each labor market. The adoption of certain key jobs, common to the majority of industries, whose relationship to each other is agreed upon and understood would do much to make wage survey data understandable.

7. With respect to these prevailing rates, we have learned that certain traditional differentials are exceedingly persistent, even though they are subject to change. Despite the leveling influences of wartime, there remain the differentials between industry and industry, between construction rates and factory rates, between maintenance and operating rates within the factory, between clerical salaries and factory rates, between retail trade and laundries on the one hand and manufacturing on the other. It is true, however, that scarcity of all types of labor has narrowed the traditional differentials between the central tendency of the general labor market and the rates paid in laundries and retail stores.

8. There seems to have been an increase in union participation in the establishment of wage schedules.

FIG. 6.

Not only is the union influence felt in negotiations as to the wage level to be adopted, but in some cases it has also penetrated to the checking of job descriptions and the determination of the grade of difficulty to be assigned to jobs. At one of the aircraft companies, the union checks merit increases, whether granted or denied. In fact, this work requires the full time of three company men who do nothing but discuss with union representatives the wage questions at issue. There is a feeling that Regional War Labor Boards have accelerated this tendency, by forcing the inclusion in union contracts of provisions governing the application of job rates to employes.

9. I proceed to the discussion of lessons that have not yet been learned, but which I fear will be learned at heavy cost, when we return to peacetime production on a competitive basis. I am deeply concerned about the misuse of incentive payment, even though the device of company-wide incentives may have appealed to employers and unions alike, as a means of increasing wages while the "wage-freeze" orders are still in effect. It may be, of course, that some company-wide plans may not boomerang, provided the product is simple and standard, the product designs not subject to change, the process thoroughly developed and not subject to much modification. But such plans are a far cry from incentive programs based upon thorough-going standardization of materials, equipment, work place and method by the careful, consistent establishment of task-times that reflect standard operating conditions.

The heaviest penalty of all will be paid by those companies that, faced with pressure to increase base rates or to improve their alignment, have instead made task-times easier so that workers in certain departments or in certain jobs could increase their weekly take-home. The adoption of such a method of escaping from the temporary emergency created by a wage demand leaves a company's task-times in a chaotic state. Lack of consistency of task-times, with some jobs known to be "soft" and some "hard," leads to as much loss of morale and labor trouble as malalignment of base rates.

10. Little need be said about the evil of misassigning workers to jobs in order to facilitate recruiting or other activities, except to point out that this evil will in time bring its own retribution. If employes of a plant have grown accustomed to common labor being hired as helpers or to typists being hired as stenographers, they will be quick to point out to management that it was not above fudging when the latter seemed to be in its interest. Unless both management and union representatives are scrupulous in the assignment of workers to jobs so that the job titles assigned to employes correspond with the work that they are actually paid to do, the result is certain to be misunderstanding.

11. My final point has to do with management's abdication of its proper place in wage bargaining. One indication is that employer representatives on tri-partite tribunals appear to have been less vigorous in representing employer interests than have union representatives in putting forth the point of view of their constituents. Moreover, many managements have failed to bargain at all, or to make sure that the economic factors involved are fully understood by the employe representatives. It is understandable, of course, that a management, faced with a factory full of work and an enormous backlog of orders, should attempt to maintain the good will of its employes and of those who represent them. It is revealing, however, to note the large proportion of wage cases in which employers, not employes, have taken the initiative in arguing for increases. Employers have wanted higher rates to facilitate recruiting and to minimize the loss of workers to other plants. What has happened has meant that managements have let their employes become accustomed to thinking that the company has no stake in wage rates that will permit the company to remain competitive. For such managements to resume hard-headed bargaining over wages will require the re-education of employes and their representatives as to the relation of wage rates to costs, prices and sales volume.

The foregoing attempt to appraise the changes in wage administration incident to the war leaves unanswered the most vital question of all: What can be done to remedy such mistakes as have been made? This question is one that must be left, for the most part, to the management of each individual company that has wittingly or unwittingly made a false step. It is a question, however, that can be answered satisfactorily only if employe and management representatives are willing to take stock frankly of the competitive situation in which the company finds itself when it resumes production on a competitive basis.

Management Tackles Post-War Distribution*

By ARTHUR A. HOOD

Director of Dealer Relations, Johns-Manville Corporation, and Vice-President, Distribution Division of the Society for the Advancement of Management

It has been my privilege, for nearly three years, to spend a considerable part of my time on post-war planning, not only concerning company matters but in connection with intra-industry and inter-industry post-victory activities.

Perhaps we might attempt a definition of distribution in its post-war setting: Distribution in a free economy is continuously selling at a profit into ultimate consumption or use the full product of optimum employment. Distribution is also the prevention of uneconomic inventory accumulations in producers', wholesalers' and retailers' warehouses. Distribution is not selling a manufacturer's output to either reprocessors, wholesalers or retailers—although these are a part of it.

Management has had at least two stages in its pre-war approach to distribution. The first might be called the "mouse-trap" stage with its theory that if you made a better quality product the world would beat a path to your door to buy it. As industrial production grew the mouse-trap theory no longer worked and we entered the "imperative selling" stage, with its technique of selling the most convenient buyers with little concern as to the ultimate consumer. In the post-war world we will enter the third or "planned consumption" stage that will require much more thorough distribution planning and organization than in the past.

Distribution, then, involves and includes all industrial processes from the purchasing of raw materials to the securing of payment for ultimate consumption or use and the bringing of the producer's equity back to the plant for use in continued employment and production.

Post-war distribution will be a problem in logistics —the Logistics of Peace.

The logistics of war is the delivery of war production, with the utmost dispatch and efficiency, to the point of fire power on the enemy.

The logistics of peace is bringing sufficient consumers' purchasing dollars back to the point of production to provide continuous optimum employment.

Logistics has been defined as the coordination of planning with the strategy and tactics used in making plans effective.

A logistical approach to post-war distribution might be organized in ten steps or principles as follows:

1. Seek out new facts, current trends and changed conditions.
2. Segregate and clarify the new and changed problems.
3. Creatively seek out new and better solutions, principles and methods.
4. Blueprint new or changed courses of action.
5. Conduct tests of new programs, processes and techniques.
6. Establish new objectives and policy revisions indicated by tests.
7. Organize action on a realistic time table.
8. Fix responsibilities, delegate authorities and initiate full operations.
9. Educate, train and stimulate all personnel involved.
10. Follow through, check results, get new facts, and repeat process.

A Changed Environment for Distribution

There are nine new facts which will inevitably condition all post-war planning and action in the field of distribution.

1. *The First of these is Government Controls.* Continued control of prices and certain material allocations by Government seem inevitable for an indefinite post-victory period, with probable further complications in the areas of surpluses, fiscal policy, taxation and tariffs.

2. *Next in importance is our commitment to "full employment."* That is the promise by our industrial leadership that "business must provide optimum employment post-war or the government will." This has been repeated too often in too many places by too many leaders for us ever to back out of that promise.

3. *Then we have our enormously increased productive capacity.* This can be measured either in terms of the

* An address before The Society for the Advancement of Management, December 1, 1944, Waldorf-Astoria, New York.

volume per man per hour or the gross tonnage. The tonnage figures are startling. We have literally increased the pre-war tonnage of consumer goods during the war while producing an annual volume of 80 to 90 billions of dollars of war goods, and this with 12 million employables engaged in war activities.

Production per man hour has increased in some factories as much as 400%—probably the average exceeds 100%.

Here we begin to see indications of the enormous problem involved in replacing that 90 billions of dollars in war materials with peace time goods—and we would still have unemployed!

We must realistically accept the facts that production normally outruns distribution; that our producing capacity has always exceeded our ability to consume; and that optimum employment post-war will give us at least twice as much to sell into consumption as pre-war.

4. *Not the least important fact in this connection is our wartime finding that our lowest production costs are at capacity operation.*

5. *Another fact yet to be widely recognized is the complete interdependence of our economy.*

We are learning this through encountering the blind alleys of individual company planning. Sooner or later we all come to the realization that what we will do in post-war distribution will be inevitably conditioned by what others are going to do. It is dawning on us that it was not rugged individualism that delivered our enormous war production but the teamwork of 60 million workers. It was free private enterprise, yes, but free *cooperative* enterprise that did it. We have learned that our greatest strength is in our teamwork, that our effectiveness will be in direct proportion to our voluntary cooperation. Under the interdependence and complexities of our modern economy we must learn to make that distinction between voluntary cooperation and collectivism which will perpetuate our freedoms.

6. *A sixth conditioning fact is our unlimited consumer demand, intensified somewhat by wartime purchasing deferments.*

Post-war distribution planners generally accept the fact that there is no down cycle in human wants—that our standard of living is capable of expansion limited only by our ability and willingness to produce.

There is a seeming paradox here. It is true that a saturation point exists for individual commodities and products, *but there is no saturation point in the market as a whole!*

7. *Coupled with this demand is our huge purchasing power, consisting of* 100 *billions in savings,* 21 *billions cash in pocket and an economic background for a tremendous expansion in consumer credit.*

8. *Another vital fact coming into general recognition is that Democracy and Freedom literally retard full employment and maximum production.*

There is a disease on the body economic in a democracy that might be called "*the creeping paralysis of accumulating unsold inventories.*" When this disease strikes we have shut downs, lay-offs, and, to use the new word, dis-employment. Two species of viruses cause this disease: one long familiar to management, the other not recognized so often.

Any industrial executive with a decade of experience has witnessed the destructive effect of accumulating unsold inventories and knows that it can be caused by such management weaknesses as faulty market analysis, failure to pre-determine product acceptance, unwise budgeting, uneconomic pricing, inadequate advertising and promotion, unwarranted distribution costs, ineffective sales techniques and inefficient sales personnel.

But even assuming complete elimination of these prevalent weaknesses and maximum efficiency along these lines, management would still have to contend with the fact that the freedom of choice on the part of the consumer as to whether to buy or not, when to buy, where to buy, what to buy, and how much to buy—can all cause disastrous inventory accumulations. If the public chooses to save instead of spend and the savings are not invested in employment creating ventures, the results can bring the start of a depression cycle.

Management facing its post-war distribution problems must never forget that the real prevention and cure of depressions is to end that chronic recurrent industrial paralysis—accumulating unsold inventories.

9. *These facts may all be summarized in one outstanding reality—that we are headed into a consumption economy.*

Our enormous production capacity, our huge purchasing power, even our unlimited consumer demand, are not enough. Production has little meaning until the product is sold into consumption or use, so full production cannot mean "full" employment. Consumer demand is valueless unless translated into action by sales and purchasing power is effective only in proportion to its utilization. Only adequate sales into ultimate consumption or use of the full production, year after year, will provide continuous optimum

employment and job opportunities for all. In short, industry does not provide employment but customers do!

Management should now reappraise selling in 4 categories: (a) sales by producers to reprocessors, (b) sales by producers to wholesalers, and (c) sales by producers to retailers.

Before stating the fourth category, it should be noted that unsold inventories can accumulate in the hands of reprocessors, wholesalers and retailers with the same deadly effect on employment as if they accumulated in the producers' warehouses.

It is only sales into consumption that really count, and so the *fourth* category is sales by producers, reprocessors, wholesalers and retailers to the ultimate consumers or users of the product.

So much for the new trends and facts which will condition post-war distribution.

Now for the second step in the Logistics of Distribution—to segregate and clarify the new and changed problems arising from these facts.

Here, too, we have nine problems that seem to have special significance to post-war distribution planners. But let us first restate management's underlying post-war problem out of which these others arise—the one basic problem that we have never realistically tackled before. Management's post-war distribution job will be to make high production records continuous through selling at a profit into ultimate consumption or use, the full product of optimum employment. When management does that job and avoids accumulating unsold inventories, shut-downs and dis-employment, then, and then only, will we have a right to talk about "the miracle wrought by industrial management." We must do this job under the recognized engineering handicaps of a free society and a free economy.

If we fail, free private enterprise will go down with us. In many companies this problem means doubling pre-war sales. In fact, most economists now measure the job of keeping 55 million persons employed as involving the production and distribution of 140 billions of dollars annually in products and services.

In terms of retailing or point of consumption selling this is just about double our best pre-war performance.

Nine Special Problems

1. The most obvious problem that arises from doubled production can be stated as an economic law *—the greater the supply of a product in relation to the demand, the more difficult it is to sell it at an adequate profit.*

We are all hopeful that many new commodities, products, and even industries may enter the field post-war, but, realistically, we must accept the probability that we will have a great deal more of nearly everything than we have ever had before to sell.

This will, of course, be augmented by the huge war surpluses.

Taking the automobile industry as an example, the figures might look something like this (quotation from Business Executive Publications—Washington)

> "1947—In this year the automobile industry will meet recurrent needs and make definite inroads into the ***backlog of demand*** for about 8,100,000 ***cars and trucks*** accumulated during the war period; will produce the first full annual quota toward meeting a 1947–51 aggregate demand estimated at 28,700,000 new cars and trucks.
>
> How fast *the* 8,100,000 *backlog* is taken care of by current production will determine how long the post-war prosperity in the automobile industry will continue.
>
> At a 6,000,000-per-year rate, this backlog would disappear in about 51 months, or about four and one-quarter years.
>
> At an 8,000,000-per-year rate, the backlog would disappear in 26 months.
>
> At a 10,000,000 rate, the backlog of demand could be met in 18 months."

Comparable statistics could be (and should be) prepared by management for every industry.

2. *A second vital problem is the depleted distributive structure most managers will have.*

Statistics tell us we have lost a third of a million retailers and tens of thousand wholesalers during the war. But that is not the total loss—the surviving distributors will have had the debilitating influence of five years of a seller's market. Sales organizations are decimated, apathetic and run down at the heels. Sales personnel are slipshod, rusty and complacent. Not only will we need millions of new salesmen, hundreds of thousands of new retailers and tens of thousands of additional wholesalers, but farsighted sales managers are even talking of a 75% rebuilding job on their pre-war distributive structure.

3. *A third serious difficulty is the negative attitude toward selling that is so prevalent.*

People don't like to sell! Questionnaires have proved that eight out of ten people who came out of retail selling to go into war factories do not want to go back to retailing, and 50% of all former salesmen of all types do not want to go back to selling.

4. *A fourth complication is that the poorest paid and poorest trained sales people in the whole field of selling*

are found at the spot where selling counts the most—the point of sale into retail consumption.

5. ***The next major difficulty will be greatly increased competition.***

In fact it is now apparent that we will enter post-war the most terrific period of competition American business has ever encountered.

Surveys show that 85% of our manufacturers are planning to increase pre-war production, and 35% of them are planning on entering production fields they have not been in before. Huge supplies will be prevalent, competitiors multiplied, and the going tough!

6. ***Such competition can only lead to shrinking gross margins.***

Producers, wholesalers and retailers alike will face this difficulty. The heavier the competitive going the greater the pressure on price. The greater the pressure on price, the lower the gross margin. Even if this problem is over-emphasized, it is still good planning to prepare to meet increased competition and shrinking gross margins.

Before discounting these problems management should look at the failure statistics in the manufacturing field following the last war, notably in consumer durables.

7. ***Manpower problems will not end with the war, especially in the field of Selling.***

Thirty-five out of 50 presidents recently quizzed gave their number-one post-war problem as, "The recruiting, selecting and training of salesmen." This problem in particular should have early and painstaking consideration.

8 and 9. The last two post-war distribution problems to be discussed here are nonetheless important because they are general. They are to segregate the place and function of government in post-war distribution and the establishment of definitive limits between legal cooperation and antitrust violation. We have also the crucial problem of developing techniques for intra-industry and inter-industry cooperation, and methods of cooperation between individual industries, the enterprise system as a whole and the government.

Logistics now indicate a third step in this process of revitalizing Distribution Management, i.e. to seek out new principles and techniques whereby these problems might be solved.

Nine Suggested Techniques for Action

1. ***The most obvious conclusion arising from these facts and problems is that top management emphasis should be shifted from production to distribution.***

Not that production should have any less attention but that distribution should have far more than in the past.

In fact, there should be an integration of the production function and the distribution function in top management.

All management should accept the reality that production is not complete in a sustaining sense until the product is in consumption or use, is paid for, and the residue money brought back to the factory to start a new production cycle. Management, too, should accept the practicality that an efficient sales program should start with product engineering and production should start with the reasonable assurance of adequate consumption or use of the products to be produced. Thus integration of production and consumption is achieved.

Production administration, financial administration and sales administration should be merged on distribution problems.

A great post-war opportunity exists for the production manager who can learn to think in terms of ultimate consumption and use of the product.

2. ***Distribution engineering should take its place as a science equivalent to production engineering.***

The scientific approach to distribution involves reviewing all processes from the receiving of raw materials to the collection and redistribution of the proceeds of the sale into consumption or use. The manner in which the product is manufactured, as well as the quantitative and qualitative aspects of production, have a direct, distinctive, and significant bearing on distribution techniques and costs. Where production engineering has treated manufacture as a production chain from raw materials to the factory doors, distribution engineering will embrace that chain and extend it to ultimate consumption or use.

Every factor and function on the distribution end of the chain should be given the same time and motion studies, and the same efficiency analysis with relation to the other factors and functions in the entire chain that have heretofore been applied solely to the production chain. Distribution engineering will likewise fight every unnecessary cost and attempt to increase sales per *sales* man hour. Both production and distribution engineers should treat all costs between raw material fabrication and ultimate consumption as one continuous cost study uninterruptedly conducted along the entire chain of prdouction and distribution into consumption.

3. *A third technique is to assure, insofar as possible, that engineered cost reductions on the production-distribution chain are passed on to consumer in this end-use package selling price.*

Reduced distribution costs reflected in end-use selling prices have the same effect on volume and markets as reduced production costs which are more often made effective in consumer selling prices.

4. *Another method of getting more effective post-war distribution will be to constructively treat accumulating unsold inventories and prevent this contagion that tends to depression.*

When inventories in the hands of producers, wholesalers or retailers rise to dangerous levels, management must have other answers than shut-downs and layoffs.

Here we approach a paradox in distribution cost policy. We must fight distribution costs constantly to meet and beat competition, to cope with shrinking gross margins, to increase volume. On the other hand, if our inventories approach danger levels, we should spend money without hesitancy to secure increased profitable volume in new and wider markets.

We should lift our sights to new sales opportunities, to wider fields, to new income groups, to new credit usages, to world markets, and pay whatever distribution cost is necessary to secure profitable new volume. But once profitable volume *is* secured, we should move Heaven and earth to reduce costs while retaining and increasing past volume and profit securements. In short, no distribution costs are too high if they secure added volume with ethical profit, and no distribution costs are low enough if there is the slightest waste in the process.

5. *Post-war distribution will probably employ a revised technique in pricing.*

Having found, during war time, that lowest factory costs are war capacity operation, it becomes imperative to establish a price structure which will assist in securing that volume. It will be no time to seek long profits on limited sales.

Greater returns on the investment through greatly increased sales, at a lower net per dollar of sale, will probably be a general practice post-war. That company which delivers the greatest value for the lowest selling price will continue to win every battle in the highly competitive days ahead.

6. *Another important objective will be to assure effective selling at the point of sale into ultimate consumption or use.*

In many cases this will mean an engineered control of both wholesale and retail sales techniques. One forward thinking sales manager says that he has ceased to think of his retail outlets as "dealers" and is substituting "consumer selling agency" for clarity in his own thinking.

Basically, two methods may be employed to control the effectiveness of point-of-consumption merchandising (a) direct to consumer sales, and (b) franchise contracts with retailers.

Indirect franchise controls will be as effective as the care exercised in building the franchise. The most effective consumer selling techniques available should be subjected to every test and then woven into the franchise contract. Franchising means setting up a consumption creating partnership between a producer and his wholesalers and retailers. It means selling *with* as well as *through* distributors.

Distributors will accept a producer's direction and coaching in consumer selling techniques providing the proffered franchise contains two elements (a) increased profit for the dealer, and (b) consumer demand value. The former may be assured by a continuous research program which uncovers the most profitable techniques being used by retailers.

Consumer demand value may be built into a franchise by a producer through (a) end-use package identification, (b) advertising of the trade-mark which will reach large numbers of the retailer's customers, and (c) putting the spotlight on the franchised dealer in the advertising.

7. *A seventh technique is required, however, to secure maximum consumption at lowest costs, i.e. the use of a personnel development program.*

This means reindoctrination, retraining and reorientation, where necessary, for every human factor on the production and distribution chain from raw materials to ultimate consumption and use. The human factor will have unprecedented importance post-war. Good public relations begin with good industrial relations. Good industrial relations involve getting the most out of an employe in his own interest as well as the company's.

Indoctrination should include an understanding by all employes of industry and how it works; production employes should understand distribution problems and techniques, and distribution employes, production problems and methods. Everyone should understand the significance of consumption and importance of consumer selling to sustained employment. New and *improved* methods of distribution and selling will require refresher training of the personnel involved.

A producer is usually in a better position to build a thorough training program for a distributor's employes than the distributor himself because of the inter-relation of the engineering of production, distribution and consumption.

Only a thorough recruiting, selection and training program will meet the post-war requirement for more and more effective distributive personnel. The difference between profit and loss post-war may be measured by the effectiveness of a company's training program.

8. *It appears that the biggest training job ahead of us may be management training in cooperative techniques.*

Our tradition of individualism, together with the fear of anti-trust laws, has made management wary of cooperative strategy and tactics. And yet the Committee for Economic Development, the National Planning Association, and other groups of the kind have indicated that *voluntary* cooperation may prevent much unneeded legislative collectivism.

Management should explore the possibilities of vertical and horizontal organization of each industry, industry by industry, and of the elements of the economy as a whole, at local, regional and national levels. Unless we can change the "enemy camp" attitude between our great pressure groups to an attitude of a friendly search for cooperative techniques which will bring the greatest benefits to all, we are destined for serious trouble. We must continuously seek areas of common objectives, mutual agreements, and inter-group ethics.

9. Finally, we must cooperatively determine exactly what part government should and will play in each branch of an industry, in each industry, and in relation to the economy as a whole.

This may turn out to be the most important new objective in the entire list.

Blueprinting the Job

The remaining seven steps in our logistical approach are largely individual company problems and need not be treated here.

However, in conclusion, a 30 Point action program used by one group in replanning their distributing structure from raw materials to ultimate consumption, may be helpful to the individual manager.

The Chart follows:

30 Steps in Overhauling and Rebuilding a Distribution Structure

1. Inventory the mental and physical assets and capacities of the company.
2. Recapitulate the company's maximum potentialities.
3. Determine the market potentialities—national—international.
4. Adjust company production to market potentialities.
5. Determine logical sales and profit objectives.
6. Establish detailed and decentralized production and distribution quotas
7. Review philosophy, structure, channels, and patterns of distribution.
8. Project credit terms and distribution financing.
9. Establish distribution cost reduction techniques and incentives.
10. Revise sales stimulating techniques and incentives.
11. Coordinate advertising, promotion, and sales activities.
12. Measure and specify internal and external training tasks.
13. Set up internal executive training (conference method).
14. Devise personnel rating and aptitude testing techniques.
15. Interpret management policies to distribution employes.
16. Revise company recruiting, compensation, and sales operating techniques.
17. Improve company sales, staff, and field organization training.
18. Review Distributors' executive training.
19. Deputize training by training trainers to train.
20. Improve Distributors' recruiting, compensation and sales management techniques.
21. Improve Distributors' salesmen and staff training.
22. Improve Distributors' service organization training.
23. Cooperate with formal educators and U.S. Department of Education.
24. Coordinate economic planning for the post-war era.
25. Cooperate with government bureaus on distribution problems.
26. Cooperate with associations, societies, industry and competitive groups on distribution problems.
27. Organize, supervise, interpret and consolidate distribution research and tests.
28. Operate clearing house of new sales and distribution ideas.

29. Plan coordination and follow through by company's line, staff, field organization and distributors' personnel.

30. Supervise consumer education (coordinate with advertising publicity and public relations).

REVIEW

Capitalism, Socialism and Democracy. By Joseph A. Schumpeter, Harper & Bros. New York and London, 1942. 381 pages. ($3.50)

Reviewed by N. I. STONE, *Consulting Economist.*

This book by the eminent Harvard economist and former Finance Minister of Austria, deals with the burning question of the day: capitalism vs. socialism and their relation to democracy.

It is a book in which erudition and penetrating analysis of the capitalist system are liberally interspersed with scintillating observations revealing an intimate knowledge of the practical workings of our economic system, uncommon among academic economists.

The first four chapters of the book (Part I) are devoted to a searching, critical analysis of the economic and philosophic theories of Karl Marx. The author is very critical of Marx' economic theories of value, wages and profit. He is equally critical of Marx as a sociologist and his theories of the class struggle and the growing pauperization of the working class. On the other hand, he thinks Marx displayed the historic vision of a genius when 100 years ago he forecast the coming evolution of the capitalist system into a socialist one through the inevitable concentration of industry.

Professor Schumpeter is not content with discovering the trend. He devotes five chapters of his book (Part III) to the elaboration of a "blueprint" of the socialist system which, he is sure, is going to take the place of the present capitalist order. The growth of the large, more or less monopolistic corporation has, in the opinion of the author, brought about a virtual divorce of ownership from management. The earlier form of ownership involved direct management, personal initiative and enterprise. Its place has been taken by the large corporation the ownership of which is distributed among thousands of stockholders. The management of these gigantic properties has drifted into the hands of a professional personnel which has slight proprietory interest in the companies placed in their hands.

The real owner, no longer in control of his property, removed from the firing line of daily contact and conflict with labor, regulatory government bodies, the buyer and the seller, has lost the fighting spirit of the earlier generations of capitalists and undergone a complete change of psychology which, coupled with the economic changes outlined above, are causing "the walls of capitalism to crumble."

In drawing up his "blueprint" of the coming socialist order, the author fails, except by casual reference, to draw upon the experience of the only socialist state which, so far, has stood the test of reality for more than a quarter of a century. Instead, he draws on his vivid imagination and certain a priori premises. In his socialist blueprint there is no profit and no interest and even no wages, just an apportionment of the social product among the participants. He ignores the fact that the Soviet Government, far from having abolished interest, is paying handsome interest rates not only on its foreign loans, but also on the domestic. To encourage savings by Soviet citizens it also pays interest on deposits in Government savings banks which the Government invests in the expansion of Soviet industry. Nor is there any account taken of the profit system maintained by that Socialist state which, thanks to its undisputed monopoly, is able to extract handsome profits from its industries which most capitalistic corporations would envy. These profits are used by the Soviet Government, exactly as by private capitalists, for investment in new enterprises and the expansion of existing plants.

In Part IV, the author discusses the theory and practice of democracy in four chapters in which he reaches the conclusion that there is nothing incompatible between socialism and democracy. In fact, he thinks "socialism may remove the rift" which exists under modern capitalism between "the standards of capitalist society" and the intellectual and moral standards of the vast majority of the people. On the other hand, he is conscious of the limitations upon personal freedom in a state which controls the livelihood of every citizen and concludes: "as a matter of practical necessity socialist democracy may eventually turn out to be more of a sham than capitalist democracy ever was. In any case that democracy will not mean increased personal freedom." (P. 302)

Part V is devoted to an illuminating sketch of the history of the socialist movement in the principal countries of the world. It is refreshing to observe the author's perfect freedom from socialist or any other kind of cant. Though sharing Marx' conviction as to the coming of socialism, he takes issue with him as to labor's part in the coming events. "Far from being goaded into the grand revolution by increasingly intolerable suffering," Schumpeter believes that labor is gaining an increasing stake in the capitalist system. "And if there be a grand revolution, the proletariat will simply be talked and bullied into consent. The spearhead will be formed by intellectuals assisted by the semi-criminal rabble. And Marx' ideas on the subject are nothing but ideology—just as Utopian as any beliefs of the utopists" (p. 310).

Still, Professor Schumpeter is certain that the evolution of the giant corporations leads inevitably toward socialism. He seems to overlook the driving force of potential competition, of indirect competition for the consumer's dollar from other industries, the drive for profits on the part of the promoter and the investment banker who finances the corporation and their representatives on the boards of directors of these corporations. All of them exert no less forceful pressure for reduction of costs and continued industrial progress than the old owner-manager did. Nor is hired management devoid of personal interest in the profits of the business. For not only are their lucrative jobs dependent on successful results, but, in well managed companies, their conpensation consists in part of a bonus commensurate with the profits of the business.

Finally, the author seems to overlook the vast areas in the capitalist system in which personal ownership and management still go hand in hand. This applies to the thousands of smaller industrial units commanding a capital of, say, less than one hundred thousand dollars, the greater part of the retail trade counting millions of units and last, but not least, the millions

of farmers who combine ownership not only with management, but with hard personal labor. Mechanization of industry with the resultant displacement of labor in the last few decades has favored the growth of service industries in which millions of small independent owner-workers and small employers find a fruitful field for their enterprise.

These are economic categories whose walls are far from crumbling. In their numerous organizations, from local farmers' granges and small town Rotary Clubs and chambers of commerce to the national farmers' organizations, the National Association of Manufacturers and the Chamber of Commerce of the United States, they would be prepared to offer powerful political resistance to any attempt to introduce socialism as an all-embracing economic system, while they might not oppose the nationalization of this or that industry, such as railroads, public utilities, etc.

To paraphrase the author's statement, it would indeed take the combination of fanatical socialist "intellectuals with the semi-criminal rabble" to force socialism by revolutionary means down the throats of all these millions of small property owners as well as of the better paid organized workers.

By the same token, the prospects of the adoption of the author's socialist blueprint by the democratic method of the ballot box are very slim indeed.

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The Outlook for Our Century*

By LEWIS L. LORWIN

THE coming decades of the twentieth century are likely to see a more intense and successful effort than ever before to expand our mastery over the forces of nature with the help of science. Space and time will be made relative in a real and practical sense by the further development of the airplane and by other means. The powers of production will be greatly and steadily expanded in such a way as to enable us to lighten the burden of work and to give us all new opportunities for sharing in the goods of the world, in education, travel and in the enjoyment of the fruits of a steadily advancing civilization.

In all countries, the masses of the people—the "working groups"—will call for an increasing share in the products of technical progress. The desire for higher standards of living is becoming the practical religion of the twentieth century—professed in all parts of the world. It is breaking down the tenets of older faiths and philosophies which professed to see good in poverty and which made millions of individuals, especially in the East, content with little and always ready to accept less. The striving for higher standards of living is breaking down the division between the East and West and is making all mankind soldiers in a common battle against want and deprivation.

Over large parts of the world the mass of the people can improve their lot chiefly by improving their ways of using the land and other natural resources. The hundreds of millions who form the bulk of the populations in India, China, South America, eastern Europe and elsewhere will remain peasants dependent for their living on the land and what it can produce. One of the principal tasks in these countries is to improve the productive qualities of the land, mines and forests, and this is now generally recognized. In many of these countries, schemes are under consideration for irrigation, better seeding, land-use planning, forest conservation, better fertilizing systems and the like. Some of these plans, e.g., the one recently advanced in India, propose to spend billions of dollars over a period of years for such projects.

At the same time, all these countries aim also to develop their manufacturing industries by processing their own raw materials and using their own labor force. Industrialization is advocated as a means of making each country more diversified, more skilled, more capable of supporting a large population, economically more self-directing and politically stronger. While many of the current plans for industrialization are exaggerated, there is no question that industrialization is on the march and that a wider and more equal spread of manufacturing industries throughout the world will be one of the marked trends of the coming decades.

Next to agriculture and industry, most countries are likely to witness a great extension of the professional and social service industries. Industrial expansion depends on, and stimulates the need for, better general education, vocational training, sanitary living conditions, medical services and the like. A larger proportion of the energies of many countries will have to be devoted to the training of engineers, doctors, nurses, teachers, statisticians, and managerial personnel. This in turn will call for more schools, colleges, universities, technical institutes. The movement in this direction is already marked. In many countries, measures are being taken to overhaul the older educational systems with these larger tasks in view. In the less developed countries, it is obviously an extraordinarily large task which will require many years and large resources.

A better agriculture and wider spread of industry will provide the impulse to an expanding economy in all countries. The world is entering on a new stage of industrial energy which will be carried on by a will to work and by a passion for production such as characterized the Western world in the first half of the nineteenth century. This productive *élan* will be particularly strong in the U.S.S.R. and countries recently emerged from feudalism and colonialism such as China, India and Latin America.

But in order to open the way for such an expanding economy, the new inventions and the new technical capacity which will be available must be used, and used wisely and efficiently. Thus the coming decades are likely to see an increasing impatience with economic and social impediments to the use of resources. This is bound to have a profound effect on ideas of property and of economic organization. Productive

*Excerpted by permission from the final chapter of "Time For Planning." Harper and Brothers, New York, (1945).

property of whatever kind will be judged by the use to which it is put and by the results obtained. This applies not only to private property and private enterprise but to collective property and public enterprise. During the past two decades, private enterprise in its monopolistic forms has been exposed to attack as the main hindrance to productive efficiency. But experience may show that some forms of public enterprise and public monopoly may be no better in this respect. Ownership in itself is ceasing to be endowed with sanctity, and is subject to the supreme test of its capacity to serve productive and social ends. The twentieth century is coming to regard as the greatest sin against nature and the greatest crime against society the unuse or abuse of natural and human resources—idle land, idle machines, idle men. It is also coming to the conclusion that the best use of resources may call for different forms of ownership and economic organization in accordance with different technical and social conditions.

The wise use of resources implies regard not only for the present but also for future generations. The idea of conservation which emerged in spectacular fashion in the United States about 1907 has since been recognized as an essential basis of economic policy in most countries. The conservation of natural resources is to some extent a brake on the idea of an expanding economy. It means that the use of resources will be subject to the social test of their capacity to serve the welfare of society for the longest possible time.

While limiting the claims of ownership, the trends described above will put a premium on technical skill, on organizational capacity and on management. They will also call for the maximum of economic and social co-operation. The appeal will be to the "social man"—the new standard bearer of industrial and economic progress—to make possible full employment and higher living standards by doing better work, by refraining from actions which interrupt production, and by giving as much as possible to the common effort. On the other hand, the working groups of society will demand a greater share in determining the general conditions of work in view of the stakes involved.

The trends described thus point both to the likelihood of more intense and widespread group struggles and to the need for more wholehearted co-operation. It is inevitable that under these conditions, the government should be called upon to play a larger and more decisive part in economic and social life. The present shift in the nature and composition of governments will become accentuated. The governments in all countries will become more and more concerned with maintaining a balance between the different economic groups and acting as the arbiter between their opposing claims. It will also have to assume greater responsibility for the industrial progress of the nation and for the fulfillment of social-economic programs.